Environmental Impact Study - Northern Phase, Elephant Lake, Municipality of Dysart et al, Haliburton County, ON

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Prepared for:
2463756 Ontario Inc.

Cambium Reference: 11996-001

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1.0 Introduction

Cambium Inc. (Cambium) was retained by 2463756 Ontario Inc. to conduct an Environmental Impact Study (EIS; the Study), for an unnumbered property along the eastern shorelines of Elephant Lake and Benoir Lake, in the Municipality of Dysart et al, Haliburton County, Ontario. The landowner is pursuing is pursuing an Official Plan Amendment (OPA), Zoning By-Law Amendment (ZBA), and Draft Plan of Subdivision application for a shoreline residential subdivision. Note that the proposed residential development is now proceeding under two phases. The Northern Phase is located on Benoir Lake Road, east of Benoir Lake (Lots #1-25). The Southern Phase is located along the shoreline of Elephant Lake (Lots #26-63). The following report is specific to the proposed Northern Phase (the Site).

The Environmental Impact Study (the Study) is required to address potential negative impacts to natural heritage features identified during the preliminary development review process, as required by the Provincial Planning Statement, 2024 (PPS) and local municipal Official Plans. The Site contains or is adjacent to (i.e., within 120 m of) the following mapped natural heritage and/or hydrologic features: Benoir Lake (fish habitat), Elephant Lake (fish habitat), the York River (fish habitat), unevaluated wetlands, unnamed watercourses, and candidate significant wildlife habitat (SWH). The Site is within Ecoregion 5E of Ontario (Crins, Gray, Uhlig, & Wester, 2009) and is located outside of a defined Settlement Area.

The *Endangered Species Act, 2007* (ESA) protects endangered or threatened species and their habitats from harm or destruction. Habitat of endangered and threatened species is protected under provincial natural heritage policy; however, it is also the landowner's responsibility to ensure that no harm to these species occurs on their property. This Study includes a habitat-based screening for species of conservation concern to determine if the Site has suitable habitat for any provincial or federal species at risk (SAR).

Cambium has conducted this Study to provide an evaluation of reasonably anticipated ecological impacts, positive or negative, that may arise as a result of this proposed

development to guide the decision-making process, pursuant to Study requirements established by the local approval authorities.

1.1 Summary of Proposed Development

The property is located at the municipal address of 0 Benoir Lake Road, in the Municipality of Dysart et al, Haliburton County, Ontario. The property can also be referenced as Parts or whole of: Conc 8 Lot 27-31, Con 9 Lot 27-33, Con 10 Lot 27-31, Con 11 27-31, and Con 12 Lot 32-33, Township of Harcourt, Municipality of Dysart et al., County of Haliburton, Ontario. In total, the subject property is approximately 800 ha in size. The Northern Phase accounts for 39.53 ha.

The Site is currently undeveloped and rural, consisting primarily of forested communities. Adjacent lands consist of existing residential lots along the shore of Benoir Lake, and undeveloped lands to the east. The proposed development for the Northern Phase consists of twenty-five residential lots averaging 1.67 ha in size. Each lot averages 60 m of public road frontage (on Benoir Lake Road), with sufficient space for a dwelling, a septic bed, and privately serviced potable water well. The conceptual site plans are provided in Appendix A.

2.0 Applicable Natural Heritage Policy and Regulation

2.1 Provincial Planning Statement, 2024

The PPS provides direction on matters of provincial interest related to land use planning and development. Section 4.1 of the PPS (Ministry of Municipal Affairs and Housing, 2024) protects the form and function of eight types of significant natural heritage features, which include:

- significant wetlands in Ecoregions 5E, 6E, and 7E
- significant coastal wetlands
- significant woodlands in Ecoregions 6E and 7E
- significant valleylands in Ecoregions 6E and 7E
- significant wildlife habitat (SWH)
- significant areas of natural and scientific interest (ANSI)
- fish habitat
- habitat of endangered and threatened species
- coastal wetlands in Ecoregions 5E, 6E, and 7E

Given their significance, development and site alteration are prohibited within provincially significant wetlands (PSW) in Ecoregions 5E, 6E, and 7E and within significant coastal wetlands. Development and site alteration in fish habitat and the habitat of endangered and threatened species shall only be permitted in accordance with provincial and federal requirements. Development and site alteration within other natural heritage features and on lands adjacent to all natural heritage features may be permitted if it is demonstrated that there will be no negative impacts on the feature or its ecological function. The PPS defines “development” as the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the Planning Act. “Site alteration” means activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site.

Section 4.2 of the PPS protects the quality and quantity of water, including the form and hydrologic function of sensitive surface water features and sensitive ground water features. Focus is given to maintaining hydrologic linkages and functions at the watershed scale to minimize potential negative impacts, including cross-jurisdictional and cross-watershed impacts of development. Mitigative measures and/or alternative development approaches should be considered for development near water features.

2.2 Official Plans and Zoning By-Law

Schedule A 'Land Use' of the County of Haliburton (The County) Official Plan (OP) designates the property as 'Rural'. Schedule K - Animal Natural Heritage of the County OP identifies Deer Wintering Area Stratum 1 on the subject Site. Schedule L - Natural Heritage identifies lake capacity status; however, neither Benoir Lake or Elephant Lake are classified. The subject EIS was scoped to address the requirements for an Environmental Impact Study as outlined in Section 5.3.5 of the County OP.

According to Municipality of Dysart et al Official Plan mapping, the Site is primarily designated as 'Rural'. Adjacent lands are designated 'Environmental Protection Area', 'PSW', and 'Waterfront Residential Area'.

According to municipal Zoning By-law mapping, the Site is zoned Rural Type 1 and Rural Type 1L. The shoreline is zoned Waterfront Residential Type 4L. The adjacent lands are zoned Environmental Protection. Benoir and Elephant Lake, as well as the reach of the York River that connects both lakes, are zoned 'Lake or River'.

2.3 Endangered Species Act, 2007

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) list are protected under the provincial *Endangered Species Act*, 2007 (ESA) (Government of Ontario, 2007). Section 9(1) of the ESA prohibits a person from killing, harming, harassing, capturing, or taking a member of a species listed as endangered, threatened, or extirpated. Section 10(1) of the ESA prohibits the damage or destruction of habitat of species listed as endangered or

threatened. Protection of special concern species is provided through designation of their habitat as significant wildlife habitat (SWH), a provincially protected natural heritage feature.

2.4 Species at Risk Act

The federal *Species at Risk Act* (SARA) was adopted in 2002 to prevent endangered or threatened species from becoming extinct or extirpated, to help in the recovery of endangered, threatened, and extirpated species, and to manage species of special concern to help prevent them from becoming endangered or threatened. Habitat which is deemed necessary for the survival/recovery of a listed wildlife species, referred to as Critical Habitat, is protected under Section 56 of the SARA. The SARA applies to all federal lands in Canada; however, at-risk aquatic and migratory bird species located on private property in Ontario also receive protection under the Act.

2.5 Fisheries Act

Works within and adjacent to lakes, watercourses, and other bodies of water containing fish have the potential to impact fish and/or fish habitat. As a result of amendments to the federal Fisheries Act in 2019, projects near water that could potentially impact fish or fish habitat may require Fisheries and Oceans Canada (DFO) review. The primary purpose of the review is to determine whether harmful alteration, disruption, or destruction (HADD) of fish habitat, as defined by the Act, can be avoided. The DFO Fisheries Protection Program provides a Decision Framework and guidance material applicable to these reviews (available on-line at www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html). If it is determined that “HADD” may be unavoidable, the project should be submitted to DFO for review and determination of project approach and conditions of approval.

3.0 Technical Approach and Data Collection Methods

3.1 Background Information Review

Existing background information pertaining to the Site and surrounding landscape was compiled and reviewed, as part of a comprehensive desktop exercise, to better understand local biophysical conditions. In Central Ontario, readily available data includes orthoimagery, topographic base mapping, and geological records. Natural environment and land use schedules prepared in support of Official Plans and Zoning By-Laws were reviewed to acquire municipal data. Natural area and species occurrence records were obtained from digital resources and reference materials. The comprehensive desktop review for this Site included the following resources:

- Natural Heritage Areas: Make-a-map (Ministry of Natural Resources and Forestry, 2018); Accessed December 3, 2020
- Aquatic Species at Risk Maps - Ontario (Fisheries and Oceans Canada, 2018); Accessed October 22, 2021
- Aquatic Resource Area Summary Data (Government of Ontario, 2015); Accessed October 22, 2021
- Fish ON-Line (Ministry of Natural Resources and Forestry, 2018); Accessed October 22, 2021
- Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2018); Accessed October 5, 2021
- Ontario Breeding Birds Atlas (OBBA) (2001-2005) (Bird Studies Canada, 2005); Accessed October 5, 2021
- County of Haliburton Official Plan (County of Haliburton, 2017)
- Municipality of Dysart et al. Official Plan and Zoning By-law maps

Figure 1 shows provincially mapped natural heritage features present in the general area of the Site.

3.2 Consultation and Agency Correspondence

Regulatory agency consultation may include Fisheries and Oceans Canada (DFO), the Ministry of Natural Resources and Forestry (MNRF), and the Ministry of Environment, Conservation, and Parks (MECP), as applicable. The MECP is responsible for administering the ESA and providing direction on potential compliance issues. MECP has prepared a guidance document titled *Client's Guide to Preliminary Screening for Species at Risk* (Ministry of the Environment, Conservation and Parks, 2019). This document aims to "help clients better understand their obligation to gather information and complete a preliminary screening for SAR before contacting the Ministry". This document was used to guide the SAR habitat-based screening for the Study.

A natural heritage information request was submitted to the local MNRF Bancroft District office; however, no response was received (see Appendix B).

3.3 Field Investigations

Information gathered through the background information review was used to guide the development of the fieldwork program. The purpose of the field visit(s) was to verify information acquired through existing documentation and to gather additional site-specific information. The following sections detail the methodologies that were applied.

3.3.1 Ecological Land Classification and Vegetation Inventory

The Ecological Land Classification (ELC) System for Southern Ontario (Lee, et al., 1998) was used to classify vegetation communities on the Site. Definitions of vegetation types are derived from the ELC for Southern Ontario First Approximation Field Guide (Lee, et al., 1998) and the revised 2008 tables. ELC units were initially delineated and classified by orthoimagery interpretation. Field investigations served to confirm the type and extent of communities on the Site through vegetation inventory and soil assessment with a hand auger. Where vegetation

communities extend off the Site, classification is done through observation from property boundaries and publicly accessible lands.

3.3.2 Wetland Boundary Delineation

In Ontario, wetlands are mapped and evaluated under the Ontario Wetland Evaluation System (OWES). Mapped evaluated wetlands have undergone extensive study and been assessed based on their form and function under four categories: Biological, Social, Hydrological, and Special Features (Ministry of Natural Resources, 2014). Evaluated wetlands that score high enough are deemed Provincially Significant Wetlands (PSW). Evaluated wetlands that did not score high enough to be a PSW are called Locally Significant Wetlands (LSW). The province also maps unevaluated wetlands. These mapped wetlands are approximate; as such, they require field verification in order to confirm their presence and determine their boundaries.

The subject wetland was delineated following provincially approved methods outlined in the Ontario Wetland Evaluation System: Southern Manual, 3rd Ed. (Ministry of Natural Resources, 2014). Fieldwork was carried out by provincially certified Cambium staff.

The Site was visited under various seasonal conditions, to document the extent of surface flooding under high and low water conditions. This information is used to assist with the determination of wetland boundaries during the growing season.

Unevaluated wetland boundaries were initially delineated and classified by orthoimagery interpretation. The presence/absence of wetlands on the Site was confirmed through field investigations during the growing season (late May through October). Wetland boundaries were determined using the 50% wetland vegetation rule. Where vegetation-based delineation was inconclusive, soil assessment with a hand auger was used to confirm wetland boundaries. Wetland boundaries on the Site were marked with a hand-held GPS unit and staked in the field. Where wetland communities extend off the Site, classification was done through observation from property boundaries and publicly accessible lands.

3.3.3 Surface Water and Drainage Feature Mapping

Presence, location, boundary, and direction of flow were confirmed for all surface water features on and adjacent to the Site through visual investigation. Where feasible, the substrate type and cover features of surface water features were also noted. Indicators of surface drainage, including erosion of soils, gullies, and sediment deposition areas were noted and traced to identify sources of erosion. All watercourse and drainage feature crossings were noted and GPS marked in the field, including bridges, culverts, and bed-level crossings.

3.3.4 Shoreline and Fish Habitat Assessment

Surface water features were initially identified using topographic mapping during a desktop review. Fisheries records were reviewed to better understand the local fish species assemblages and thermal habitats. Field investigations were completed by canoe, to document the existing shoreline conditions and search for areas of the shoreline that would be suitable for future docking facilities. The extent and quality of fish habitat was determined through a general assessment of substrates, in-water cover, riparian vegetation, water depth, and flow.

3.3.5 Breeding Bird Surveys

Two breeding bird surveys timed 7-10 days apart were carried out during the peak breeding season, between May 24 and July 10. Point counts were complete using components of the Ontario Breeding Bird Atlas (OBBA) Guide for Participants (Ontario Breeding Bird Atlas, 2001) and the Forest Bird Monitoring Program (Cadman, Dewar, & Welsh, 1998) based on habitat characteristics. As outlined in the OBBA protocol, point counts are to be done between dawn and five hours after dawn, when wind speed is low (<19 km/h) and in the absence of rain or thick fog. All species observations (visual and auditory) were recorded during a five minute period. Each species observed was classified and assigned a code based on the highest level of breeding evidence, as defined by the protocol: Confirmed, Probable, Possible or Observed.

3.3.6 Eastern Whip-poor-will Surveys

The Eastern Whip-poor-will (*Caprimulgus vociferus*) is a SAR listed as threatened on the SARO list. It is usually found in areas with a mix of open and forested areas, such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands, or openings in more mature forests. In order to determine if the Site is being used as nesting habitat by Eastern Whip-poor-will, avian surveys were conducted following the approved MNDMRF protocol (Ministry of Natural Resources and Forestry, 2013). Surveys are to be conducted three times between May 18 and June 30, with two surveys being conducted during the first full moon cycle and one survey conducted in the next full moon cycle. Since moon phase is known to affect calling activity, the moon should be greater than 50% illuminated above the horizon (generally one week prior to and following the full moon). Conditions should include nights with temperatures above 10°C, no precipitation, low noise levels, wind <19 km/h (Beaufort Wind Scale of 3 or lower), and clear skies. Points should be established 500 m apart and all species observations (visual and auditory) recorded during a five minute period. Observations should be recorded with the direction and approximate distance from the survey station.

Two Eastern Whip-poor-will surveys were conducted on the Site. The third survey was ultimately determined to be unnecessary, consistent with applicable protocol, given that no Whip-poor-will were recorded during the first two surveys.

3.3.7 Amphibian Breeding Surveys

The presence of frog and toad breeding habitat was assessed using auditory surveys following the Marsh Monitoring Program Participant's Handbook for Surveying Amphibians (Bird Studies Canada, 2008). According to the protocol, three amphibian surveys should be conducted between April and July, at least 15 days apart, in order to span the breeding seasons of all species that may be present in an area. Air temperature is the primary factor in determining survey dates, as different species call when air and water temperatures reach certain levels; therefore, nighttime air temperature should be greater than 5°C for the first survey, greater than 10°C for the second survey and greater than 17°C for the third survey. Other weather

conditions are also taken into consideration. Conditions are considered appropriate when wind speed is low (<19 km/h; Beaufort Wind Scale of 3 or lower) and there is light or no precipitation occurring (high humidity is ideal but heavier rain can impact ability to hear and differentiate calls). Sample points are established during the first survey and re-visited during following surveys. At each sample point, calls from all species are aurally surveyed for 3 minutes and noted to the greatest extent possible, on a 100 m semi-circular area in front of the sampling station using call intensity codes established by the protocol:

- Code 0: No calls heard
- Code 1: Calls can be counted individually (calls do not overlap)
- Code 2: Calls overlap, but numbers of individuals can be estimated
- Code 3: Calls overlap and are continuous (full chorus); therefore, a count estimate is unreliable

Recommended monitoring windows for the Site (located between the 43rd and 47th parallels) are April 15-30, May 15-30, and June 15-30.

3.3.1 Turtle Surveys

Turtle activity on and adjacent to the Site was assessed by applying Visual Encounter components of the Survey Protocol for Blanding's Turtle (*Emydoidea blandingii*) in Ontario (Ministry of Natural Resources and Forestry, 2015). According to the protocol, visual encounter surveys (VES) should be conducted between 8 am and 5 pm during sunny periods when air temperature is above 5°C and is warmer than water temperature. All individual sightings and signs of activity such as disturbed soils, tracks, predated nests, etc. were recorded.

3.3.2 Deer Wintering Habitat Survey

MNRF is responsible for identifying deer wintering areas in the Province. Stratum 1 locations are the core wintering areas and include forests with greater than 60 percent canopy closure (conifer cover preferred). Stratum 2 areas include agricultural lands or deciduous / mixed forests where deer congregate before moving into the core area when winter conditions are

more severe. Congregation areas are typically greater than 100 hectares, though conifer plantations less than 50 hectares may also be used. A travel corridor to the yard from the congregation area is required. To determine the significance of a congregation area, the NDMRF conducts an assessment, typically during January or February when the snow depth is greater than 20 centimeters (cm), using techniques such as aerial, ground, or road surveys or a pellet count deer density survey. Also, since deer tend to re-use the same congregation areas year after year, local hunters, conservation officers, and foresters may know if a specific location is used as a wintering area.

Within an area mapped as Stratum 1 or Stratum 2, site-specific information can be gathered through a Study to provide an assessment of the wintering area quality, such as the extent and quality of conifer cover and estimated quantity of food available (Ministry of Natural Resources and Forestry, 2015). Deer wintering areas are identified and mapped as significant wildlife habitat (SWH) by MNRF and this mapping cannot be altered by a site-level Study.

3.3.3 Bat Maternity Roost Habitat Surveys

Bats present in Ontario typically require a snag or cavity tree for maternity roosting habitat. A snag or cavity tree is defined as a standing live or dead tree ≥25 cm diameter at breast height (DBH), with cracks, crevices, hollows, cavities and/or loose or naturally exfoliating bark appropriate for bat roosting. High quality or SWH is defined as woodlands with greater than 10 roost trees per hectare. To determine if suitable habitat for bats existed on/or adjacent to the Site, Cambium staff conducted a bat maternity roost survey using the methods detailed in the *Bat and Bat Habitats: Guidelines for Wind Power Projects* (Ontario Ministry of Natural Resources, 2011). The protocol requires that for sites with ≤10 ha of deciduous or mixed treed forest or swamp ELC community types (i.e. FOD, FOM, SWD, SWM), a minimum of 10 randomly selected plots are to be surveyed, with an additional plot added per hectare, to a maximum of 35 plots for the project area. At each plot, the number of snag/cavity trees ≥25 cm DBH within a 12.6 m radius (0.05 ha) is to be recorded. A calculation is then made to determine the snag density and if the number of cavity trees found meets the criteria for maternity surveys.

3.3.4 Habitat-Based Wildlife Surveys

Given the scale of the proposed development and the existing natural character of the Site, a habitat-based approach was used to assess potential impacts to wildlife, consistent with standard practice. General habitat information gathered through the field investigations was used to assess the connectivity of the Site with the surrounding landscape and evaluate the ecological significance of the local area. Cambium staff actively searched for features that may provide specialized habitat for wildlife. These searches included inspecting tree cavities, overturning logs, rocks, and debris, and scanning for scat, browse, sheds, fur, etc. Any evidence of breeding, forage, shelter, or nesting was noted. Species and habitat observations were documented and photographed.

4.0 Characterization of Natural Features and Functions

Data acquired through the background information review and field investigations is summarized in the following sections. Based on the information gathered, an assessment of significance has been completed to identify protected natural heritage features on and/or adjacent to the Site.

A summary of the field investigations completed on the Site is presented in Table 1. Surveys stations and areas are shown on Figure 2.

Table 1 Summary of Field Investigations

Date	Time On Site	Weather	Observer	Activities
2021-03-31	8:00-16:30	6°C, Overcast. Light rain Wind: 1 Noise: 0	E. Silhanek & C. Johnson	Bat Maternity Roost Habitat Survey Deer Wintering Habitat Survey
2021-04-14	7:00-15:00	10°C Periods of cloud	K. McKitterick & C. Johnson	Turtle Basking Survey, ELC, Vegetation Survey, Bat Habitat Roost Survey
2021-04-28	12:00 – 17:00	12°C, Partly cloudy	K. McKitterick & C. Johnson	Turtle Basking Survey, ELC, Vegetation Survey
2021-05-04	19:00 - 22:45	9°C, light rain Wind:1 Noise:0	K. McKitterick & C. Johnson	ELC, Amphibian Breeding Survey #1
2021-05-11	10:00 – 17:00	15°C Clear	K. McKitterick & C. Johnson	Turtle Basking Survey, ELC, Vegetation Survey
2021-05-26	19:00 – 00:00	15°C Overcast Wind: 1	K. McKitterick & C. Johnson	Eastern Whip-poor-will Survey #1 and Amphibian Calls #2

Date	Time On Site	Weather	Observer	Activities
		Noise: 0		
2021-06-02	8:45-14:15	14-25°C, Clear Wind: 0	D. Langlois & J. Prahl	Shoreline and Fish Habitat Assessment
2021-06-02	06:00-14:00	20°C, Clear Wind: 1 Noise: 0	K. McKitterick & C. Johnson	Breeding Bird Survey #1 (Northern Phase), ELC, Vegetation Survey, Turtle Basking Survey
2021-06-16	06:00-14:00	25°C, Clear Wind:1 Noise: 0	K. McKitterick	Breeding Bird Survey #1 (Southern Phase), Turtle Basking Survey
2021-06-23	14:00 – 23:00	20°C Clear - 15°C and partly cloudy after dark	K. McKitterick	Amphibian Breeding Survey #3, Wetland Delineation, Eastern Whip-poor-will Survey #2
2021-07-09	05:00-13:00	25°C, Clear Wind:1 Noise: 0	K. McKitterick	Breeding Bird Survey #2, ELC, Vegetation Survey
2021-09-09	07:00-13:00	22°C, scattered cloud	J. Prahl & K. McKitterick	ELC, Vegetation Survey, Wetland Delineation

Notes: Wind speed is reported as a Beaufort Wind Scale value (0 = 0-2 kph, 1 = 3-5 kph, 2 = 6-11 kph, 3= 12-19 kph, 4 = 20-30 kph, 5 = 31-39 kph, 6 = 40-50 kph). Noise is reported based on background noise levels: Index 0 – no appreciable effect, 1 – slightly affecting sampling, 2 – moderately affecting sampling, 3 – seriously affecting sampling, 4 – profoundly affecting sampling.

4.1 Landscape Position and Topography

The Site is located within the Ontario Shield Ecozone: Georgian Bay Ecoregion 5E, which is in south-central Ontario, extending southeast from Lake Superior to the central portion of the Ottawa River valley in the east, including Parry Sound, Perth, North Bay, Sudbury, and Sault

Ste. Marie. This Ecoregion is characterized by frequently exposed bedrock, shallow soils, and mixed forests representative of the Great Lakes – St. Lawrence Forest Region (Lee, et al., 1998).

This Site contains variable topography typical of the local area, with a prominent bedrock ridge in the eastern portion of the Site running parallel to Benoir Lake. The Site generally slopes towards the adjacent waterbodies (York River, Benoir Lake, and Elephant Lake). The Site is occupied by a mix of depressional wetlands, bedrock ridges and cliffs, and undulating, forested upland areas. Detailed topographic LIDAR data for the Site, collected by an unmanned aerial vehicle (UAV), was used to inform the engineering design process, and corroborate natural feature mapping. The topographic survey conducted by Drone Services Canada Inc. on June 1 and 2, 2021 is provided in Appendix C.

The Site slopes west towards Benoir Lake and the York River. A granite ridge runs north-south approximately parallel with the shoreline of Benoir Lake, this feature was likely exposed through glacial activity and is typical of the local landscape. From this point, the Site slopes gradually towards Benoir Lake. Several beaver-regulated ponds are located along this ridge and the associated watercourses flow west towards Benoir Lake. Several low-lying depressions that contain wetland communities are also present, as shown on Figure 2.

Soil conditions were classified as primarily sandy soils. A detailed Geotechnical and Hydrogeology report and Site Evaluation Report were prepared for the Site by King EPCM (submitted under separate cover), which provide additional information regarding soils, topography, and slope hazards on the Site.

4.2 Vegetation Communities

Aerial orthoimagery for the area was reviewed prior to undertaking field investigations. The vegetation cover is dominated mostly by upland, mixed and deciduous forest stands with scattered pockets of coniferous species. Several wetland communities, including large marsh communities, have also been identified on the Site and on adjacent lands.

Vegetation community classifications were verified through field investigations and are summarized in Table 2. ELC communities are also shown on Figure 2. A list of identified species and representative photos are provided in Appendix D and Appendix E, respectively.

Table 2 Vegetation Communities

No.	ELC Code	Community Description	Community Type	S - Rank
1	FOD5-3	Dry – Fresh Sugar Maple – Oak Deciduous Forest	Terrestrial	S5
2	FOC1-2	Dry -Fresh White Pine - Red Pine Coniferous Forest	Terrestrial	S4
3	FOM6-2	Moist - Fresh Hemlock - Sugar Maple Mixed Forest	Terrestrial	S4S5
4	MAS2-1	Cattail Mineral Shallow Marsh	Wetland	S5
5	SWD2-1	Black Ash Mineral Deciduous Swamp	Wetland	S5
6	MAS2-9	Forb Mineral Shallow Marsh	Wetland	S4
7	SWM5-4	Red Maple – Balsam Fir Mixed Organic Swamp	Wetland	S5

Community 1 was a mature Dry – Fresh Sugar Maple – Oak Deciduous Forest. This community was dominated by Sugar Maple (*Acer saccharum*) and co-dominated by Northern Red Oak (*Quercus rubra*) and American Beech (*Fagus grandifolia*). Associates include Black Cherry (*Prunus serotina),* Eastern Hop-hornbeam (*Ostrya virginiana*), Red Maple (*Acer rubrum*) and Yellow Birch (*Betula alleghaniensis*). Dominance varied throughout the community with portions being more Sugar Maple and American Beech dominate or Red Oak and American Beech dominate. Canopy cover was dense. Understory was very dense in areas and minimal in other areas of the community. When present it was dominated by Striped Maple (*Acer pensylvanicum*) and Hobble Bush (*Viburnum lantanoides*) with one species dominating at times in areas. Associate species included Eastern Prickly Gooseberry (*Ribes cynosbati*), and Mountain Maple (*Acer spicatum*). The groundcover was sparse with some exposed rock in areas. Groundcover consisted of Wild Sarsaparilla (*Aralia nudicaulis*), Wild Lily of the Valley (*Maianthemum canadense*), Yellow Clintonia (*Clintonia borealis*), and various

ferns including Western Bracken Fern (*Pteridium aquilinum*), Marginal Wood Fern (*Dryopteris marginalis*) and Evergreen Wood Fern (*Dryopteris intermedia*).

Community 2 was a mature Dry -Fresh White Pine - Red Pine Coniferous Forest. This was an Eastern White Pine (*Pinus strobus*) dominated forest. The canopy was dense with some opens where blow down has occurred. Associate species included Red Pine (*Pinus resinosa*), Eastern White Cedar (*Thuja occidentalis*), Eastern Hemlock (*Tsuga canadensis*) and Balsam Fir (*Abies balsamea*). Understory was minimal but when present consisted of Striped Maple or Hobblebush. Groundcover was sparse but when present dominated by Yellow Clintonia, Red Trillium (*Trillium erectum*), Marginal Wood Fern and Rattlesnake Fern (*Botrypus virginianus*).

Community 3 was a mature Moist - Fresh Hemlock - Sugar Maple Mixed Forest. This forest community was dominated by Eastern Hemlock and Sugar Maple. Associate species included American Beech, Red Maple, Yellow Birch. The canopy was dense. Understory was minimal throughout most of the community and consisted of Stiped Maple, Hobble Bush, Alternate Leaved Dogwood (*Cornus alternifolia*) and Northern Bush Honeysuckle (*Diervilla lonicera*). Groundcover was minimal but when present included Red Trillium, Wild Lily of the Valley and various ferns including Evergreen Wood Fern, Marginal Wood Fern and Ostrich Fern (*Matteuccia struthiopteris*).

Community 4 was a Cattail Mineral Shallow Marsh located in the northwestern corner of the Site. This community is associated with a mapped watercourse, directing flows southward towards Benoir Lake. The dominant species was Broad-leaved Cattail (*Typha latifolia*) with various other wetland species present such as Reed Canarygrass (*Phalaris arundinacea*), Fragrant Water-lily (*Nymphaea odorata ssp. odorata*), Northern Arrowhead (*Sagittaria cuneata*) and Sensitive Fern (*Onoclea sensibilis*).

Community 5 was a mature Black Ash Mineral Deciduous Swamp. The community was dominated by Black Ash (*Fraxinus nigra*) with Red Maple, Yellow Birch, Balsam Fir associates. The canopy was less dense and had multiple openings. The understory was minimal but when present included Red-osier Dogwood (*Cornus sericea*) and Grey Alder (*Alnus incana*). The groundcover was thick and was dominated by Tall Mannagrass (*Glyceria striata)* and various

sedges including Graceful Sedge *(Carex gracillima*), Cypress-like Sedge (*Carex pseudocyperus*), and Bebb's Sedge (*Carex Bebbii*) with Spotted Jewelweed (*Impatiens capensis)* and Sensitive Fern associates.

Community 6 was a Forb Mineral Shallow Marsh. These were characterized as small, isolated wetlands. This community contained various sedges including Necklace Sedge (*Carex projecta*), Cypress-like Sedge, and Retrorse Sedge (*Carex retrorsa*) with Spotted Jewelweed and Sensitive Fern associates. The canopy and understory were limited to Black Ash, Bebb's Willow and Red-osier Dogwood.

Community 7 was a mature Red Maple – Balsam Fir Mixed Organic Swamp. The community was dominated by Balsam Fir and to a lesser extent Red Maple. Associate species included Tamarack and Yellow Birch. The canopy was dense with openings where blow down occurred. The understory was sparse but when present included Grey Dogwood and Red Osier Dogwood. The groundcover was sparse but contained dense patches of ferns including Bulbet Bladder Fern (*Cystopteris bulbifera*), Common Lady Fern *(Athyrium filix-femina*), and Sensitive Fern with Running Clubmoss and Yellow Clintonia throughout.

A search for Butternut (provincially endangered) was completed as part of the vegetation survey; no Butternut trees were identified.

4.3 Wetland Delineation

Several small pockets of unevaluated mapped wetlands were identified on/adjacent to the Site. These communities as well as unmapped wetland communities were investigated in the field. The boundaries for the existing wetlands were both refined and expanded across the entirety of the Site. Where necessary, GPS was used to demarcate changes to the existing wetland boundary. A combination of hi-resolution DEM mapping of the Site, aerial imagery, and GPS was used to determine the boundary of any previously unmapped wetlands areas. Wetland communities on/adjacent to the Site are shown on Figure 2. The boundaries of these wetlands are clearly defined based on species present, hydrological conditions, and in some areas, topography clearly delineates the wetland edge.

4.4 Fish and Fish Habitat

Benoir Lake and Elephant Lake, as well as the reach of the York River which connects these waterbodies are all located on lands adjacent to the Site. These waterbodies support a diverse fish community and provide thermal habitat conditions varying from warmwater to coolwater, in deep water areas. Appendix F includes a list of fish species known to occur in the subject waterbodies, based on the background information sources, and species-specific life history information. No critical habitat or aquatic species at risk are known to occur on or adjacent to the Site, according to Aquatic Species at Risk Mapping (Fisheries and Oceans Canada, 2018).

Several unnamed permanent and intermittent watercourses were documented on/adjacent to the Site. These watercourses flow west and south, towards Benoir Lake and Elephant Lake, and are hydrologically connected to several unevaluated wetlands on the Site. Base flow through these watercourses was minimal or absent in the latter part of the growing season. Additionally, these watercourses contained rocky and cobbled substrates with little in-stream vegetation. On-site watercourses are unlikely to provide significant direct habitat for fish due to the existing steep topography and intermittent flows; however, they do provide contributing habitat for fish.

4.5 Wildlife Survey Results

4.5.1 Birds

Breeding bird surveys were completed as a part of the Study, as detailed in Appendix G. Bird species observed on or adjacent to the Site, breeding evidence, federal and provincial status and s-ranks are provided in Appendix G. Sixteen records of probable or confirmed breeding evidence were noted (see shaded cells in Appendix G). Species with probable or confirmed breeding evidence **on the Site** included: Red-eyed Vireo, Wood Duck, Common Yellow Throat, Chestnut-sided Warbler, White-breasted Nuthatch, Black-capped Chickadee, Pine Warbler, Piliated Woodpecker, Downy Woodpecker, Eastern Phoebe, Common Loon, Bluejay, American Robin, Song Sparrow, Mallard, and Great Blue Heron.

No Eastern Whip-poor-wills were documented calling on or adjacent to the Site during the evening surveys. Conditions were favorable during all surveys. Based on these findings, the Site is not considered occupied habitat for Eastern Whip-poor-will.

Incidental bird observations included American Crow, American Robin, Barred Owl, Black-capped Chickadee, Blue Jay, Brown Creeper, Canada Goose, Cedar Waxwing, Common Raven, Hairy Woodpecker, Hermit Thrush, Ovenbird, Pine Warbler, Red-breasted Nuthatch, Red-winged Blackbird, Ring-necked Duck, Ruby-crowned Kinglet, Ruffed Grouse, and Veery.

Details on species of conservation concern and their protected habitat are provided in Section 4.7, below.

4.5.2 Amphibians

Amphibian breeding surveys were completed and a total of four species were identified on or adjacent to the Site, as shown in Table 3 (bolded species were located *on the Site*). The three species included Spring Peeper, Western Chorus Frog, and Wood Frog. Of these, one had a call level code of 3 (full chorus): Spring Peeper.

Table 3 Summary of Amphibian Survey Results

Sample Point	Survey #	Survey Direction	Species	Maximum Call Intensity	# of Individuals	Inside or Outside 100 m Sample Plot
1	1	E	SPPE	2	3	In
			WOFR	2	2	In
			WCFR	1	1	In
	2	E	SPPE	3	-	In
			WCFR	3	-	In
			SPPE	3	-	In
	3	***E***	***SPPE***	***3***	***-***	***In***
2	1	S	SPPE	1	1	In
			WCFR	1	1	In
	2	S	No Obs	No Obs	No Obs	No Obs
	3	***S***	***SPPE***	***2***	***3***	***In***
3	1	W	SPPE	3	-	In
	2	W	No Obs	No Obs	No Obs	No Obs
	3	***W***	***SPPE***	***2***	***3***	***In***

Notes: "-" indicates no calls heard; bolded records relate to on-site observations (as opposed to adjacent lands)

Incidental amphibian observations included American Bullfrog, Green Frog, and Gray Treefrog.

While targeted surveys for salamanders were not completed, areas of potential suitable habitat for these species were investigated during the field investigations. No salamanders were documented, and no signs of salamander breeding was observed.

4.5.3 Reptiles

Five turtle basking surveys were completed on the Site. No turtle species were directly observed during the basking surveys or during other field investigations on the Site.

Searches for turtle nesting activity were also conducted on the Site in conjunction with the basking surveys. No nests were observed within the Northern Phase lands. Incidental reptile

observations were recorded during all site visits. The only incidental reptile observation was Northern Watersnake.

4.5.4 Mammals

For the bat maternity roost surveys, a total of 37 plots were surveyed across both phases collectively totaling 1.85 ha of assessment area (i.e., 0.05 ha/plot). A total of 85 candidate snag/cavity trees were documented within the survey plots, resulting in a density estimate of 2.3 candidate trees per hectare across the entire Site. Individual trees that met the criteria were geo-located with a hand-held GPS unit.

Winter surveys for ungulate activity were conducted on March 31, 2021. Snow cover was sparse/absent on the majority of the Site, with a few areas documented with 10 cm of snow depth. Wandering transects were completed throughout the area in search of ungulate signs. Some evidence of Moose activity (i.e., pellets and tracks) was recorded; however, activity levels and browse intensity were low, with only a few pellets and a few track aggregates observed across the Site. Additional discussion regarding Deer Wintering Habitat on the Site is provided in Section 4.6.1.

Incidental mammal observations included Beaver, Eastern Grey Squirrel, and White-tailed Deer.

4.6 Significant Wildlife Habitat

Ecoregion-specific Significant Wildlife Habitat (SWH) guidance documents were used to identify and confirm SWH on the Site (MNR, 2000). The Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E (Ministry of Natural Resources and Forestry, 2015) apply to the proposed works. Information gathered during the background review and field investigations was compared to Candidate and, where applicable, Confirmed SWH criteria. The results from the SWH assessment are provided below and a comprehensive assessment is included in Appendix I. Additional details on species of conservation concern and their protected habitats are provided in Section 4.7.

4.6.1 Deer Wintering Habitat (Stratum I and II)

According to the Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E (Ministry of Natural Resources and Forestry, 2015), deer overwintering SWH includes deer yarding areas and cervid (i.e., deer and moose) movement corridors. Deer yarding areas are defined as deer wintering concentration areas that deer move to in response to the onset of winter snow and cold. Deer yards are composed of two habitat types referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and usually consists of mixed or deciduous forests with plenty of browse (newest year's growth on trees and shrubs) available for food. The core of a deer yard (Stratum I) is located within Stratum II and provides critical shelter for deer survival when winters become severe. Stratum I habitat is primarily composed of tightly-spaced coniferous trees (pine, hemlock, cedar, spruce).

Existing Provincial mapping shows a Deer Wintering Habitat area (Stratum I) overlapping the Site. However, based on the Ecological Land Classification mapping conducted for the Site, Communities 2 and 3 are more likely to be used as Stratum I habitat, as they consist of stands with coniferous trees. The majority of the Site is more likely used as Stratum II habitat as it is composed of deciduous tree cover.

4.7 Species of Conservation Concern

A list of species of conservation concern, including species at risk, with potential to occur in the general vicinity of the Site, has been compiled based on known species' ranges, habitat requirements, and review of background information sources (as listed in Section 3.1). In addition, the list has been augmented with direct field observations from the Study, as detailed in the previous sections. Cambium has employed a habitat-based screening, supplemented with targeted field surveys when necessary, in order to identify suitable habitat for species located on or adjacent to the Site. A detailed habitat suitability analysis is provided in Appendix H and a discussion of the results is provided below.

No Critical Habitat for aquatic species at risk listed under SARA was identified in Benoir Lake or Elephant Lake, adjacent to the Site.

4.7.1 Endangered and Threatened Species

Blanding's Turtle is listed as threatened both federally and provincially. They spend most of their life cycle in large wetlands or shallow lakes with high densities of water plants, nutrient rich water, and organic sediment such as found in Community 4. This community contains a mix of open water and marsh vegetation and supports the development of organic soils. Basking surveys for Blanding's turtle (and other turtles) were conducted across five separate field visits. No Blanding's turtles were observed on or adjacent to the Site (refer to Section 4.5.3).

Algonquin Wolf prefer deciduous and mixed forest communities, there range covers a large area and regional packs have been tracked within Algonquin park to the north of the site. No evidence of Algonquin Wolf (tracks or scat) was recorded on Site.

Eastern Small-footed Myotis, Little Brown Myotis, and Northern Myotis utilize standing dead trees with suitable cavities for maternity roosting habitat. These species prefer forested habitats with open canopies and forest edges. Communities 1, 2, 3, and 5 may provide habitat for these species. Bat maternity roost surveys were conducted across the entire site on two separate field visits. The approximate density of standing trees containing suitable roosting structures and cavities was below the minimum required to qualify as protected habitat.

4.7.2 Special Concern Species

Wood Thrush prefer deciduous and mixed forest communities with moderate understories with abundant leaf litter such as those found in Community 1. Wood Thrush was heard calling at breeding Bird Station 3 on June 2, 2021, but was not observed on subsequent breeding bird surveys and no probable or confirmed breeding evidence was documented.

Eastern-wood Pewee prefers the mid-canopy layer of intermediated aged deciduous and mixed forested communities with little understory vegetation. While the understory was well developed in most regions of the Site, small patches of reduced understorey within Communities 1, 2, and 3 may support this species. No Eastern-wood Pewee were observed during the breeding bird surveys or incidentally.

Midland Painted Turtle uses waterbodies such as ponds, marshes, lakes, and slow-moving creeks with a soft-bottom and aquatic vegetation as its habitat. Several wetland communities are present on/adjacent to the Site; therefore, the Site provides suitable habitat for this species. No turtles were observed during field investigations.

Snapping Turtle is found in shallow water with soft mud and leaf litter, but travel to gravel or sandy embankments/beaches to lay eggs. Communities 4 and 6 may contain habitat suitable for this species. In addition, adjacent upland communities (i.e., Communities 1, 2, and 3) could support travel of this species between habitats. Surveys for basking turtles were conducted across five separate field visits to the Site, no Snapping Turtles were observed during these surveys.

5.0 Impact Assessment and Mitigation Measures

The following sections address potential impacts to protected features identified on and adjacent to the Site that may result from the proposed seasonal residential development:

- Wetlands
- Fish Habitat
- Significant Wildlife Habitat
- Habitat of Endangered or Threatened Species

No other natural heritage features protected by provincial or municipal natural heritage policy were confirmed on or adjacent to the Site.

The proposed development consists of large rural lots with restricted development envelopes which could result in direct and indirect impacts to local natural heritage features and functions. Mitigation measures and best management practices have been recommended to ensure that the integrity of the current existing natural features are protected and/or enhanced, and furthermore that their functions are not negatively impacted.

For the purpose of facilitating the development approvals process for the Site, an overlay of the concept plan showing the proposed lot layout is provided on Figure 4.

5.1 Wetlands, Waterbodies, Watercourses and Fish Habitat

Numerous wetlands are present on and adjacent to the Site. These features, particularly those located along the shoreline of Elephant Lake and Benoir Lake, support various ecological processes and diverse species communities. Both Elephant Lake and Benoir Lake (as well as the associated reach of the York River which connects them), are located south and west of the Site, respectively. These waterbodies contain fish habitat and support diverse aquatic vegetation communities that provide habitat for other wildlife. Several watercourses that convey drainage to these waterbodies were also identified on the Site. The watercourses are unlikely to provide significant direct habitat for fish given the existing topography and intermittent flows; however, they do provide contributing (indirect) habitat through the

supply/transport of food and nutrients inputs. In general, no development or site alteration should occur within wetlands, waterbodies, or watercourses on the Site; however, there are instances where development can be accommodated within these features and/or their associated development setbacks (see below), provided the mitigation strategies recommended herein are adhered to.

A 30 m development (i.e., built feature) setback is recommended from all wetlands, waterbodies, and watercourses on the Site, as shown on Figure 3 and Figure 4. A standard 30 m setback is considered sufficient to protect the existing form and function of more sensitive ecological and hydrologic features, provided that the area within the setback be maintained as naturally self-sustaining vegetation (i.e., a buffer area where no vegetation removals or grading is allowed). In some specific scenarios where built features are proposed adjacent to less sensitive wetlands and/or aquatic features that do not provide direct fish habitat (i.e., intermittent watercourses), a reduced development setback may be accommodated, provided that lot-level controls are applied and strictly adhered to.

At the lot level, there several instances where development is proposed within a 30 m wetland setback. A wetland (Community 4) was identified that restricts access to proposed Lots 7, 8, and 9 from Benoir Lake Road (Figure 4). A private laneway is proposed (approx. 8 m wide) south of Lot 9 that will allow vehicle access to the building envelopes at the eastern extent of Lots 7, 8, and 9. The proposed laneway is positioned such that encroachment into the prescribed 30 m wetland setback is minimized. Potential indirect impacts to the adjacent wetland community resulting from road construction should be sufficiently mitigated provided vegetation clearing is minimized to the greatest extent possible and the mitigation measures and best management practices outlined in Section 5.4 are adhered to. The establishment of a trail through the wetland to allow a pedestrian crossing may be permissible provided that the trail is designed to be low-impact and reviewed/approved by a qualified ecologist/biologist.

Based on the current Site Plan, the area available for the construction of a residence and associated infrastructure (i.e., septic) on Lot 6 is restricted by the recommended 30 m wetland setback (Figure 4). The construction of a residence on this lot may be permissible provided the building envelope is positioned such that it maximizes the setback from the wetland, and

vegetation clearing is minimized to the greatest extent possible. A buffer enhancement plan should also be required as a condition for the issuance of a building permit for this lot, to enhance the remaining buffer area.

Lots 17 and 18 are overlapped by a wetland (Community 7), a watercourse, and their associated 30 m setbacks (Figure 4). The construction of a residence on these lots can be accommodated provided that the building envelope is positioned such that it maximizes the setback from the wetland and watercourse, and vegetation clearing is minimized to the greatest extent possible. A Buffer Enhancement Plan should be required as a condition for the issuance of a building permit for these lots, to enhance the remaining buffer area.

It is also noted that access to the buildable area of Lot 17 from Benoir Lake Road is restricted by an area of swamp (i.e., wetland) and a watercourse and their associated setbacks. Access to the buildable area will require a watercourse crossing and encroachment into both the watercourse and wetland setbacks. As such, a buffer enhancement plan should also be required as a condition for the issuance of a building permit for this lot to enhance the remaining buffer area. In addition, the detailed design for the proposed watercourse crossing associated with lot access should be submitted to DFO for review, to ensure compliance with fish and fish habitat protection provisions under the Fisheries Act.

5.2 Significant Wildlife Habitat

Several SWH types were identified on and/or adjacent to Site through the subject Study (refer to Section 4.6 and Appendix I). The recommended 30 m wetland, waterbody, and watercourse setbacks will ensure the protection of most SWH types identified. Further protection of SWH can be achieved through the retention of existing forest cover and minimization of construction-related impacts through recommended mitigation measures and best practices (see Section 7.0).

Stratum I deer wintering habitat is mapped on the entire Site and extending onto adjacent lands to the north and east. Deer wintering areas are identified and mapped as significant wildlife habitat (SWH) by MNRF and this mapping cannot be altered by a site-level study. No evidence of core deer yarding activity was noted within the Site boundaries. As outlined in the

Significant Wildlife Habitat Mitigation Support Tool when complete avoidance of this SWH type is not possible, minimizing the amount of affected habitat and directing the development towards the edge of habitat is a satisfactory mitigation option (Ontario Ministry of Natural Resources and Forestry, 2014) .

Passive recreational uses, which are compatible with deer wintering areas, are expected to continue to occur in this area. The development of the Site will also likely increase edge habitat and encourage new growth of trees/shrubs along newly exposed edges. This would effectively increase available browse material for deer during the winter months. Given our findings and the scale and location of the proposed future development, no negative impacts to deer wintering SWH are anticipated.

5.3 Habitat of Endangered and Threatened Species

While no observations of Blanding's Turtle were made on the Site, this species is known to occur in the general area (Ontario Nature, 2018) and can be difficult to detect due to low population numbers. Potential habitat for this species would include wetlands and associated upland areas with suitable nesting habitat. This species has a General Habitat Description under the ESA, which specifies the following:

- Category 1: Nest and the area within 30 m or Overwintering sites and the area within 30 m.
- Category 2: The wetland complex (i.e. all suitable wetlands or waterbodies within 500 m of each other) that extends up to 2 km from an occurrence, and the area within 30 m around those suitable wetlands or waterbodies.
- Category 3: Area between 30 m and 250 m around suitable wetlands/waterbodies identified in Category 2, within 2 km of an occurrence.

No nesting sites for Blanding's turtles were observed on the Site. Suitable overwintering habitat must have soft mud substrates and enough depth to maintain free water beneath ice; on the Site and adjacent lands, suitable habitat is likely present within the wetland and riverine/waterbody areas. Potential Category 1 and 2 habitats on the Site would be protected by the recommended development setbacks from the wetlands/watercourses. Category 3

habitat, which has the highest tolerance to alteration, includes the upland areas adjacent to Category 1 and 2 habitats. Potential Category 1, 2, and 3 habitats are shown on Figure 5.

The proposed development is generally directed away from Category 1 and 2 habitats. Where development is proposed within Category 2 habitat; wildlife exclusion fencing is recommended during construction within the active season. Wildlife exclusion fencing should be installed around the entire perimeter of the construction area prior to May 1 of the year of construction. This fencing should be made of light-duty sediment fence, staked at regular intervals, trenched-in at least 10-20 cm below ground, with an above ground height of at least 60 cm. The silt fence should be inspected regularly: and any downed areas, rips, or holes should be repaired or replaced immediately. The area of construction should also be actively inspected for turtles each day prior to the start of work throughout the duration of construction.

Provided the recommendations herein are adhered to, potential impacts to Blanding's Turtle and their protected habitats, as a result of proposed development activities, can be feasibly mitigated, as required by the Endangered Species Act, 2007.

5.4 Mitigation Measures and Best Management Practices

Given the nature of the current proposed development, the following section is provided to address potential adverse effects that are anticipated during and post-construction.

To minimize potential impact to the natural environment on and surrounding the Site, Cambium recommends that the mitigation measures and best management practices outlined in Table 4 be implemented at the Site.

Table 4 Mitigation Measures and Best Management Practice Recommendations

Potential Impact	Recommended Best Practice
Erosion and Sedimentation	Prior to any construction activities taking place, it is essential that perimeter sediment fencing be installed around construction areas. Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart. This key control measure will help prevent sediment from entering surface water features (i.e., wetlands and the watercourse) in the surrounding landscape. All sediment fencing should be regularly maintained and kept in good working condition, until the area has been stabilized

Potential Impact	Recommended Best Practice
	and/or successfully revegetated. Any observed overland drainage channels originating from Site, that may or may not have arisen as a result of erosion, should be directed to a check dam structure, prior to discharging to off-site areas. Construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.
Increase in Runoff - Impervious Surfaces	Runoff from the Site is expected to increase with the introduction of impermeable surfaces (i.e., building roofs, roadways, and walkways) and compacted surfaces with reduced infiltration capacity. Measures to increase infiltration of run-off from these surfaces should be encouraged and, where possible, included in the Site Plan for the development. Eavestrough downspouts should be directed to vegetated areas (such as lawn, or gardens) and not onto hardened surfaces, to encourage infiltration. Cambium does note that the wetland in this case is hydrologically driven by water levels in the York River and would not be significantly impacted by surface flows from the Site itself.
Changes to Water Quality and Quantity	The Stormwater Management Plan prepared for the Site should specifically address potential stormwater-related impacts to water quality and quantity of the surrounding wetlands and watercourse, through quality control measures.
Wildlife: Birds (Disturbance and Harm)	Nesting birds and their nests, eggs, and young are protected under the *Migratory Birds Convention Act, 1994*. Vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines). If vegetation clearing or construction is to occur between April 1 and August 31, the vegetation should be investigated by a qualified biologist to confirm if any active nests are present, prior to site alteration. Vegetation clearing can proceed provided there are no active nests. If active nests are confirmed, the nests should be left undisturbed until young have fledged or the nest is determined to be inactive. Note that some birds nest on the ground and in low-lying vegetation and shrubs; therefore, all habitat types should be inspected prior to ground disturbance if removals are to occur during the breeding season.
Wildlife: Bats (Disturbance and Harm)	Tree removal should be limited to the building envelope to the extent possible. Small scale tree removal will not result in impairing or eliminating the function of habitat to support bat life processes

Potential Impact	Recommended Best Practice
	provided the tree removal avoids the active bat season (April 1 – September 30). If vegetation clearing or construction is to occur between April 1 and September 30, the vegetation should be investigated by a qualified biologist to confirm whether SAR bat habitat may be present. Presence or absence of habitat should be confirmed through acoustic monitoring following industry standard protocols prior to any tree removal during the active season for bats. Vegetation clearing can proceed provided absence is confirmed.
Wildlife: Amphibians & Reptiles (Disturbance and Harm)	Turtles and snakes are particularly vulnerable to construction-related impacts on sites adjacent to wetlands, watercourses, and waterbodies. Sediment fencing can function as wildlife exclusion fencing. To exclude wildlife from the Site, sediment fencing should be installed around the entire perimeter of the construction area prior to the earlier of May 1 or commencement of Site preparation to keep turtles and snakes from entering the construction area. This fencing should be made of light-duty sediment fence, staked at regular intervals, trenched-in at least 10-20 cm below ground, with an above ground height of at least 60 cm. The sediment fence should be inspected regularly to ensure that it remains in good condition: and any downed areas, rips, or holes should be repaired or replaced immediately. A designated point of ingress/egress should be identified, and a moveable barrier be constructed, to allow for the Site to fully remain enclosed while allowing vehicular access to the Site as needed. The construction area should also be actively inspected for amphibians, turtles and snakes each day prior to the start of work throughout the duration of construction. As the Site is located adjacent to potential habitat for turtles, workers should be aware of the nesting season for turtles, which extends from May 15 to August 15. All stockpiled materials should be kept inside the exclusion fencing area and ideally should be covered and well secured around the base, to prevent turtles from nesting in loose substrates. Should any nesting turtles be encountered, work should stop immediately, and the turtle should be left to finish nesting undisturbed. The turtle should be photographed, and the nest marked to ensure it is not disturbed during construction, or until eggs have hatched (late August – September). If a nest is laid in a stockpile or other area that requires disturbance, Cambium should be contacted to determine if the nest can be relocated.

Potential Impact	Recommended Best Practice
	If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. Signage should be included on Benoir Lake Road between wetland features to alert vehicular traffic/residents of the potential for wildlife and to note nesting season for turtles, to encourage landowners to be aware of these sensitive species in the area.
Species at Risk (SAR; Threatened and Endangered)	SAR observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre (NHIC). Consultation with MECP will be required if any endangered and/or threated species are found on the property prior to/during construction. If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. SAR should not be handled by unauthorized individuals.
Spread of Invasive Species	Invasive species are becoming problematic throughout Ontario and can adversely impact our natural landscapes, including wetlands, woodlands, and watercourses. Best management practices to reduce the spread of invasive species include: 1. Revegetate with species native to the local area. 2. Request fill and compost from reputable sources that are conscious of the potential for the spread of invasive species via these media. 3. Get to know the most common invasive species in the area. 4. Brush off or clean any shoes, boots and equipment that have encountered invasive species before returning to the property. Equipment and vehicles coming into the work area should be free of soil and seeds that could introduce non-native and invasive species following the Clean Equipment Protocol for Industry: Inspecting and Cleaning Equipment for the Purposes of Invasive Species Prevention (Halloran, 2013) 5. Immediately eradicate invasive species if they are observed on the property. 6. Do not compost invasive species; put them in plastic bags and dispose of them in the garbage. 7. Do not dispose of lawn or garden clippings in the forest or wetlands to avoid species introductions. An excellent resource for identifying and controlling invasive species can be found through the Ontario Invasive Plant Council: Home -

Potential Impact	Recommended Best Practice
	Ontario Invasive Plant Council (ontarioinvasiveplants.ca) (OIPC, 2022)
Anthropogenic Impacts – Noise	Noise is not expected to increase significantly because of the proposed development as it is consistent with the land use on the surrounding properties. Maintaining the wooded areas surrounding the natural features on the Site will serve to buffer wildlife within the natural areas from noise-related impacts. Temporary acute noise may occur during construction activities and should follow appropriate local noise by-laws. All equipment should be equipped with appropriate mufflers to mitigate noise levels during construction.
Anthropogenic Impacts – Lighting	Artificial lighting can have an impact on nocturnal movement of wildlife within natural areas. To minimize impacts to wildlife, it is recommended that outdoor lights be operated on timers, rather than by motion detection. Outdoor lighting associated with the development should be directed at the ground, rather than into the adjacent natural areas. Bulb wattage should be as low as practical while meeting the safety intent of the lighting. Lighting in common areas should be capped to direct light to the intended area of the ground to limit light pollution.
Anthropogenic Impacts – Domestic Animals	Access of domestic animals to natural areas can have a negative impact on local wildlife due to predation, harassment, and spread of illness and disease. Signage should be posted at trailheads and park areas to keep pets on a leash at all times, and to appropriately dispose of pet waste.

6.0 Policy Conformity

The proposed development conforms to Sections 4.12 and 9.1 of the Municipality of Dysart et al. Official Plan, and Section 5.3.2 of the County of Haliburton Official Plan. As shown on Figure 3 and Figure 4, a 30 m development setback has been recommended for the Benoir Lake, Elephant Lake, and York River shorelines, wetlands, and watercourses. In some specific scenarios where built features are proposed adjacent to less sensitive features (i.e., intermittent watercourses and transitional swamp communities), a reduced development setback may be accommodated, provided that lot-level controls are applied and strictly adhered to.

Based on the key natural heritage and hydrologic features identified on/adjacent to the Site, and the findings of the field investigations detailed herein, the proposed development of the Site conforms with the natural heritage policies of the PPS. Conformity with applicable natural heritage policy is summarized in Table 5.

Table 5 PPS Natural Heritage Policy Conformity Summary

Key Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Significant Wetland in Ecoregions 5E, 6E and 7E and unevaluated wetlands	No	Yes	Yes
	Explanation: The proposed development will not directly impact significant wetlands on the Site. Wetlands on and adjacent to the Site will be afforded a 30 m development setback. Any indirect impacts and proposed encroachments into the setbacks will be mitigated through measures and best practices recommended herein.		
Fish Habitat	No	Yes	Yes
	Explanation: The proposed development will not directly impact Elephant Lake, Benoir Lake, or the York River as no in-water work is planned and all features are provided a 30 m buffer. Any indirect impacts will be mitigated through measures and best practices recommended herein.		

Key Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Significant Wildlife Habitat (including habitat of special concern species)	Yes	Potentially	Yes
	Explanation: The recommended 30 m wetland, waterbody, and watercourse setbacks will ensure the protection of most SWH types identified. Further protection of SWH can be achieved through the retention of existing forest cover and minimization of construction-related impacts through recommended mitigation measures and best practices (see Section 7.0). No negative impacts to Deer Wintering Habitat are anticipated, as discussed in Section 5.2.		
Habitat of Threatened and Endangered Species	Potentially	Potentially	Yes
	Explanation: Potential habitat for Blanding's Turtle exists on the Site and adjacent lands, with future proposed development to occur within Category 3 habitat. Provided the recommendations herein are adhered to, potential impacts to Blanding's Turtle habitat, as a result of future development activities, can be feasibly mitigated, as required by the Endangered Species Act, 2007.		

7.0 Summary of Recommended Mitigation Measures and Best Practices

The following recommendations are provided with respect to the proposed development:

1. Site Plans should show the location of the wetland, watercourse, and shorelines, along with their associated setbacks as shown on
2. The 30 m wetland, watercourse and shoreline setback should be maintained as the existing forest cover and be allowed to naturally self-sustain (i.e., a buffer area where no vegetation removals or grading is allowed).
3. Where the prescribed non-significant wetland, waterbody, and watercourse setbacks restrict lot access and/or future construction, encroachments can be accommodated provided that the recommendations in Sections 5.1 and 5.4 are adhered to. These recommendations include minimizing vegetation removals, maintaining permeable trail surfaces, implementing low-impact design elements, and restoration/enhancement of remaining buffer areas. A comprehensive buffer enhancement plan should be developed for the Draft Plan area.
4. An Erosion and Sediment Control (ESC) Plan that includes perimeter light duty sediment fencing should be implemented along the wetland/watercourse side of the construction area prior to the commencement of any Site alteration.
    a. Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart.
    b. All sediment fencing should be regularly maintained and kept in good working condition, until the area has been stabilized and/or successfully revegetated.
    c. All ESC fencing should be removed following construction once exposed soils have been revegetated.
5. Measures to increase infiltration of run-off from impervious surfaces should be encouraged and, where possible, included in the Site Plan for the development.

6. Outdoor lights should be operated on timers, rather than by motion detection, should be directed at the ground, rather than into the adjacent natural areas, and should have wattage as low as practical while meeting the safety intent of the lighting.
7. Best management practices to reduce the spread of invasive species should be considered for the Site.
8. Signage should be included on Benoir Lake Road between wetland features to alert vehicular traffic/residents of the potential for wildlife and to note nesting season for turtles, to encourage landowners to be aware of these sensitive species in the area.
9. Wildlife exclusion fencing should be installed around the entire perimeter of the construction area prior to May 1 of the year of construction. This fencing should be made of light-duty sediment fence, staked at regular intervals, trenched-in at least 10-20 cm below ground, with an above ground height of at least 60 cm. The silt fence should be inspected regularly: and any downed areas, rips, or holes should be repaired or replaced immediately. The area of construction should also be actively inspected for turtles each day prior to the start of work throughout the duration of construction.
10. Workers should be aware of the nesting season for turtles, which extends from May 15 to August 15. All stockpiled materials should be kept inside the exclusion fencing and should be covered and secured around the base to prevent turtles from nesting. Should any nesting turtles be encountered, work should stop immediately and the turtle should be left to finish nesting undisturbed. The turtle should be photographed and the nest marked to ensure it is not disturbed during construction, or until eggs have hatched (late August – September). If a nest is laid in a stockpile or other area that requires disturbance, Cambium should be contacted to determine if the nest can be relocated.
11. If any individual turtles or snakes are encountered, they should be photographed and allowed time to move out of harm’s way.
12. Vegetation removal or alteration should take place outside the breeding bird season (April 1 to August 31) and the active roosting period for bats (April 1 to September 30). Should any clearing be required during the breeding bird season, nest searches conducted by a

qualified person must be completed within 48 hours prior to clearing activities. If nests are found, work within the area must cease until the nest has fledged, as per the federal *Migratory Birds Convention Act*. Should any clearing be required during the active roosting period for bats, please contact the Ministry of Environment, Conservation and Parks for further direction (e.g. acoustic monitoring, exit surveys) to ensure conformity with the *Endangered Species Act.*

13. Species at Risk observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre. Consultation with MECP may be required if any endangered and/or threated species are found on the property prior to or during construction.

8.0 Closing

In closing, potential negative impacts associated with the proposed development can be appropriately minimized, provided that the recommendations outlined in Section 7.0 are adhered to. The information presented herein demonstrates that the proposed development can be carried out in a way that will not adversely impact natural heritage and hydrologic features and functions identified on or adjacent to the subject Site. Furthermore, the proposed development conforms with applicable provincial and municipal natural heritage policy.

Respectfully submitted,

Cambium Inc.

DocuSigned by:
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Jeremy Prahl, B.Sc., EP, Can-CISEC
Senior Ecologist / Project Manager

DocuSigned by:
DD6F5C07A33A475...

Danielle Leal, B.Sc.
Coordinator - Ecologist

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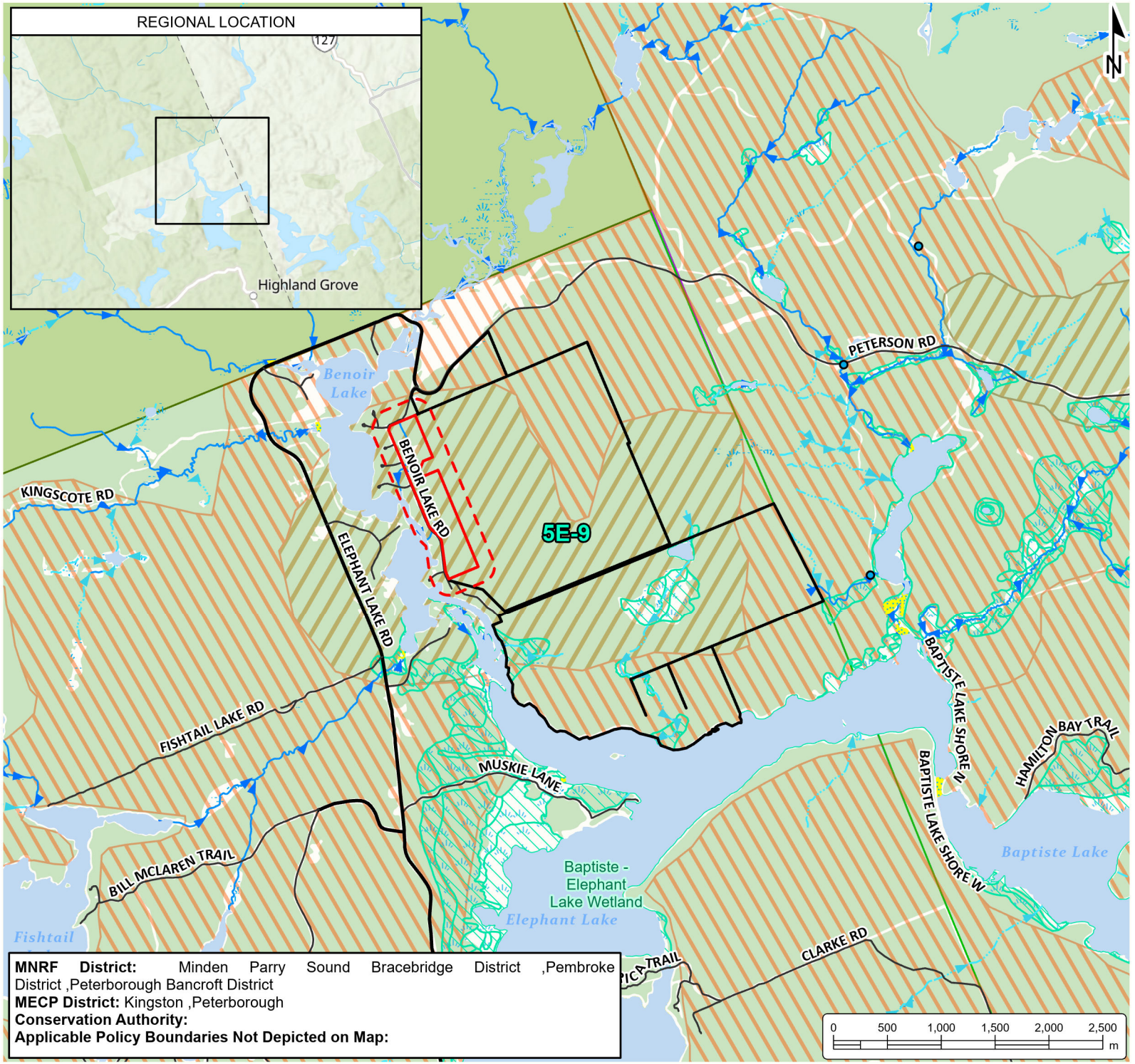
Glossary of Terms

ANSI: Area of Natural and Scientific Interest
ARA: Aquatic Resources Area
ARA: Aggregate Resources Act
AS: Agricultural System
ATK: Aboriginal Traditional Knowledge
BMA: Bear Management Area
BMP: Best Management Practice
CA: Conservation Authority
CEAA: Canadian Environmental Assessment Act/Agency
CFA: Canadian Forestry Association
CFIP: Community Fisheries Involvement Program
CFS: Canadian Forestry Service
CHU: Critical Habitat Unit
CH: Cultural Heritage
CLI: Canada Land Inventory
CLU: Crown Land Use
COSSARO: Committee on the Status of Species at Risk in Ontario
CR: Conservation Reserve
CWIP: Community Wildlife Involvement Program
CWS: Canadian Wildlife Service
DFO: Fisheries and Oceans Canada
EA: Environmental Assessment
EAA: Environmental Assessment Act
EAB: Emerald Ash Borer
EBR: Environmental Bill of Rights
EIA: Environmental Impact Assessment
EIS: Environmental Impact Study/Statement
ELC: Ecological Land Classification System
ELUP: Ecological Land Use Plan
END: Endangered species
EPA: Environmental Protection Act
ER: Environmental Registry
ESA: Endangered Species Act (2007)
ESA: Environmentally Sensitive Area
ESC: Erosion and Sediment Control
GIS: Geographic Information System
GLSL: Great Lakes – St. Lawrence
GPGGH: Growth Plan for the Greater Golden Horseshoe
GPS: Global Positioning System
HSA: Habitat Suitability Analysis
HIS: Habitat Suitability Index
KHA: Key Hydrologic Areas
KHF: Key Hydrologic Features
KNHF: Key Natural Heritage Features
LCFSP: Licence to Collect Fish for Scientific Purposes
LIO: Land Information Ontario
LRIA: Lake and Rivers Improvement Act
LUP: Land Use Permit or Plan
MA: Management Area
MAFA: Moose Aquatic Feeding Area
MCEA: Municipal Class Environmental Assessment
MECP: Ontario Ministry of Environment, Conservation and Parks
MNDMRF: Ontario Ministry of Natural Resources and Forestry
NER: Natural Environment Report
NHIC: Natural Heritage Information Centre
NHIS: Natural Heritage Information System
NHS: Natural Heritage System
OBM: Ontario Base Map
OFIS: Ontario Fisheries Information System
OLI: Ontario Land Inventory
OMAFRA: Ontario Ministry of Agriculture, Food and Rural Affairs
OWES: Ontario Wetland Evaluation System
PPS: Provincial Planning Statement (2024)
PSW: Provincially Significant Wetland
RLUP: Regional Land Use Plan
RMP: Regional Management Plan
R.P.F.: Registered Professional Forester
SAR: Species at Risk
SARO: Species at Risk in Ontario
SC: Special Concern species

F&W: Fish and Wildlife
FA: Fisheries Act (Federal)
FEC: Forest Ecosystem Classification
FMP: Forest Management Plan
FRI: Forest Resources Inventory
FWCA: Fish and Wildlife Conservation Act
GGH: Greater Golden Horseshoe
GHP: General Habitat Protection
SWH: Significant Wildlife Habitat
SWM: Stormwater Management
THR: Threatened species
TOR: Terms of Reference
TPP: Tree Preservation Plan
WIA: Woodlands Improvement Act
WMU: Wildlife Management Unit

Appended Figures



MNRF District: Minden Parry Sound Bracebridge District ,Pembroke District ,Peterborough Bancroft District
MECP District: Kingston ,Peterborough
Conservation Authority:
Applicable Policy Boundaries Not Depicted on Map:

ENVIRONMENTAL IMPACT STUDY

2463756 ONTARIO INC.
Elephant Lake
Dysart, Ontario

LEGEND

- Aquatic Resource Area Survey Point
- Major Road
- Minor Road
- Watercourse, Permanent
- Watercourse, Intermittent
- Property Boundary
- Unevaluated Wetland
- Provincially Significant Wetland
- Fish Spawning Area
- White-tailed Deer Wintering Area (Stratum 2)
- White-tailed Deer Yard (Stratum 1)
- Provincial Park
- Ecodistrict
- Water Area
- Wooded Area
- Northern Phase
- Adjacent Lands 150m

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NORTHERN SITE LOCATION AND NATURAL HERITAGE POLICY AREAS

Project No.: 11996-001		Date: July 2024	Rev.:
Scale: 1:50,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: JP	Figure: 1	

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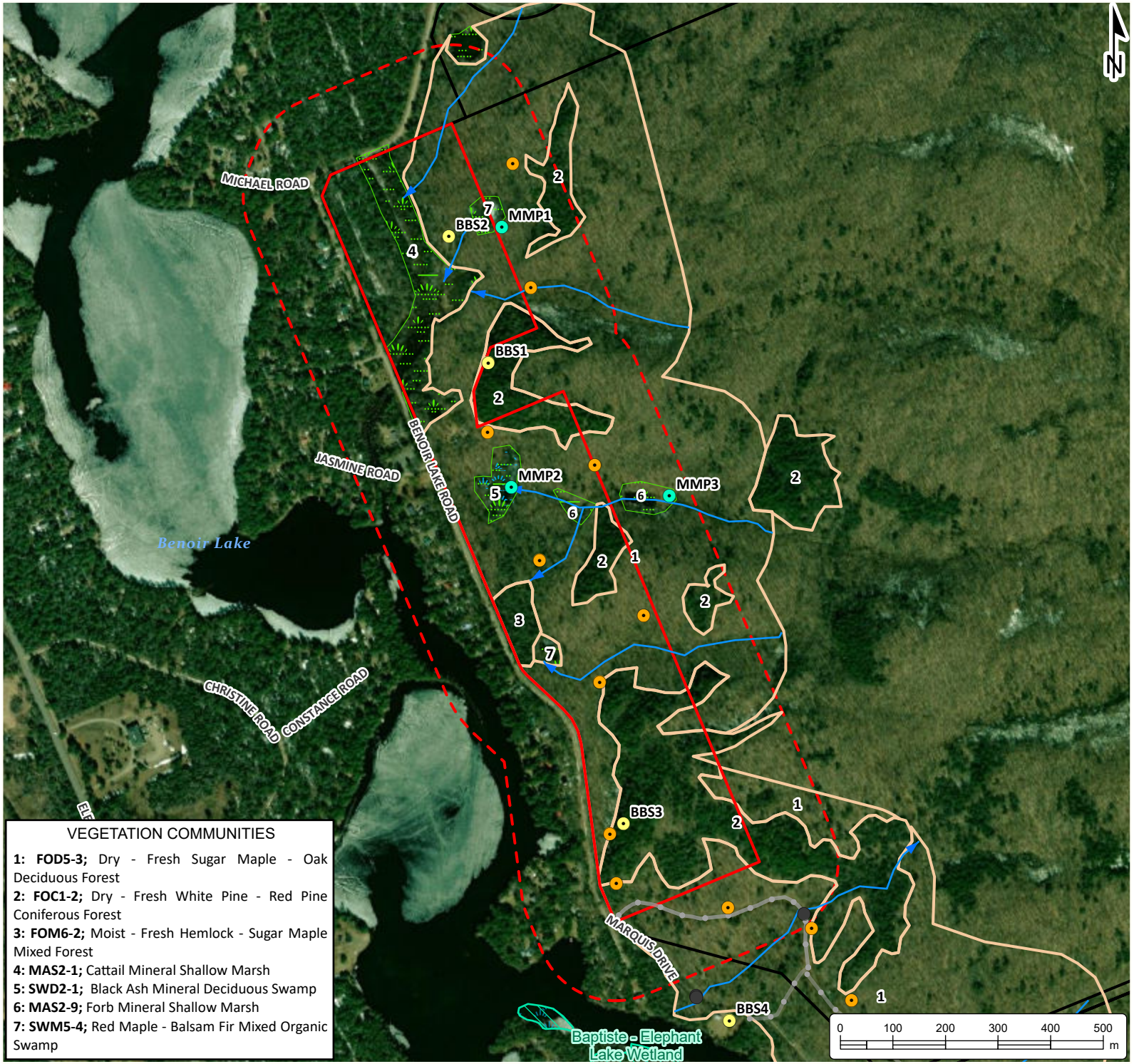

ENVIRONMENTAL IMPACT STUDY

2463756 ONTARIO INC.
Elephant Lake
Dysart, Ontario

LEGEND

- Culvert
- Bat Maternity Roost Survey Plot Points
- Amphibian Breeding Survey Station (MMP)
- Breeding Bird Survey Station (BBS)
- Eastern Whip-poor-will Survey Station (EWPW)
- Field Verified Watercourse
- Existing Trails
- Property Boundary
- Unevaluated Wetland
- Provincially Significant Wetland
- Vegetation Community
- Field Verified Wetland
- Northern Phase
- Adjacent Lands 150m

VEGETATION COMMUNITIES

1: FOD5-3; Dry - Fresh Sugar Maple - Oak Deciduous Forest
2: FOC1-2; Dry - Fresh White Pine - Red Pine Coniferous Forest
3: FOM6-2; Moist - Fresh Hemlock - Sugar Maple Mixed Forest
4: MAS2-1; Cattail Mineral Shallow Marsh
5: SWD2-1; Black Ash Mineral Deciduous Swamp
6: MAS2-9; Forb Mineral Shallow Marsh
7: SWM5-4; Red Maple - Balsam Fir Mixed Organic Swamp

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NATURAL HERITAGE FEATURES AND SURVEY LOCATIONS NORTHERN PHASE

Project No.: 11996-001		Date: July 2024	Rev.:
Scale: 1:10,250		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: JP	Figure: 2	

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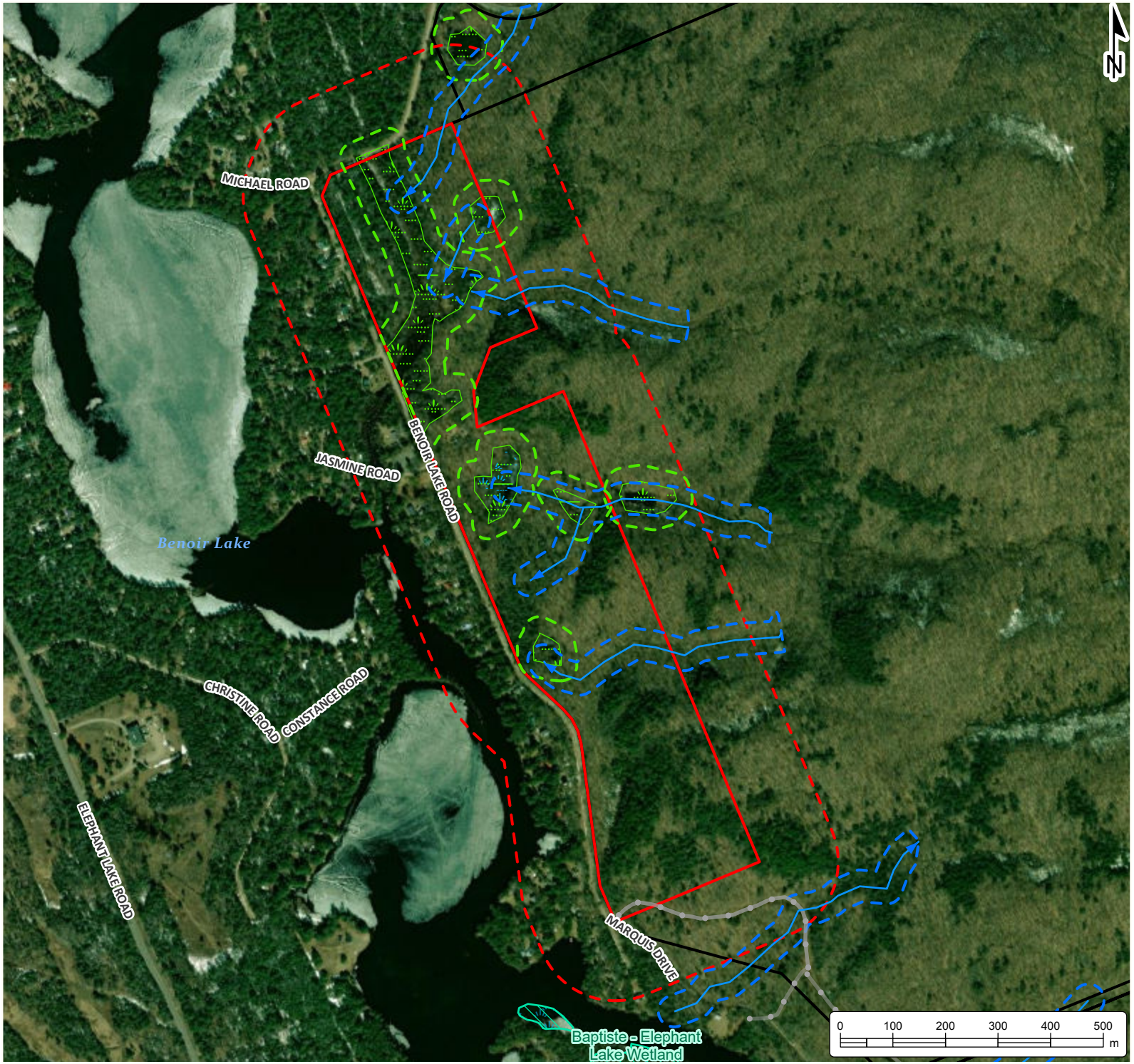

ENVIRONMENTAL IMPACT STUDY

2463756 ONTARIO INC.
Elephant Lake
Dysart, Ontario

LEGEND

- Field Verified Watercourse
- Existing Trails
- Property Boundary
- Unevaluated Wetland
- Provincially Significant Wetland
- Field Verified Wetland
- 30m Wetland Buffer
- 30m Watercourse Buffer
- Northern Phase
- Adjacent Lands 150m

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NATURAL HERITAGE CONSTRAINTS NORTHERN PHASE

Project No.: 11996-001		Date: July 2024	
		Rev.:	
Scale: 1:10,250		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: JP	Figure: 3	

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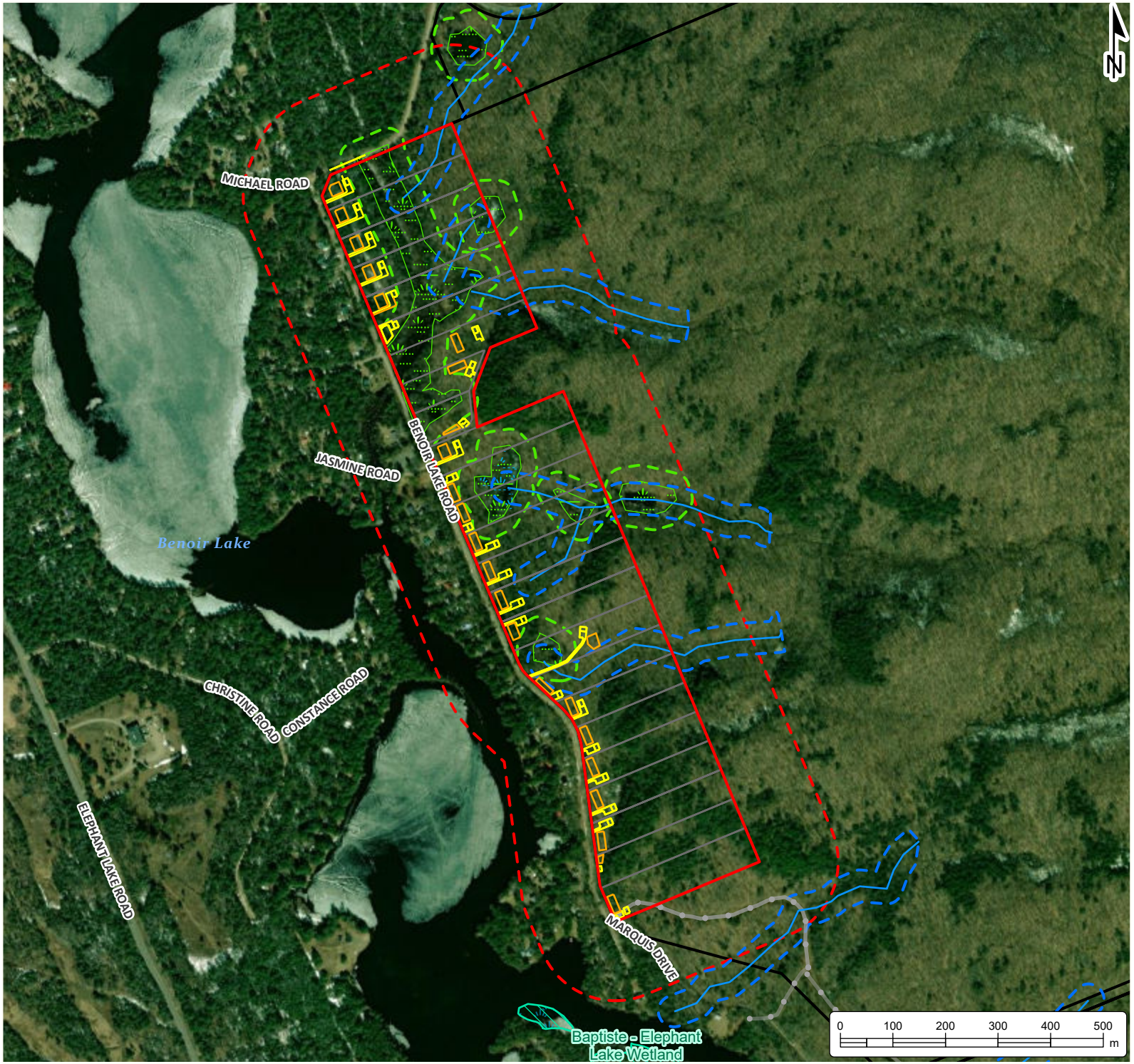

ENVIRONMENTAL IMPACT STUDY

2463756 ONTARIO INC.
Elephant Lake
Dysart, Ontario

LEGEND

- Field Verified Watercourse
- Existing Trails
- Property Boundary
- Proposed Building and Roads
- Proposed Lots
- Proposed Septic
- Unevaluated Wetland
- Provincially Significant Wetland
- Field Verified Wetland
- 30m Wetland Buffer
- 30m Watercourse Buffer
- Northern Phase
- Adjacent Lands 150m

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NATURAL HERITAGE CONSTRAINTS NORTHERN PHASE

Project No.: 11996-001		Date: May 2025 Rev.:	
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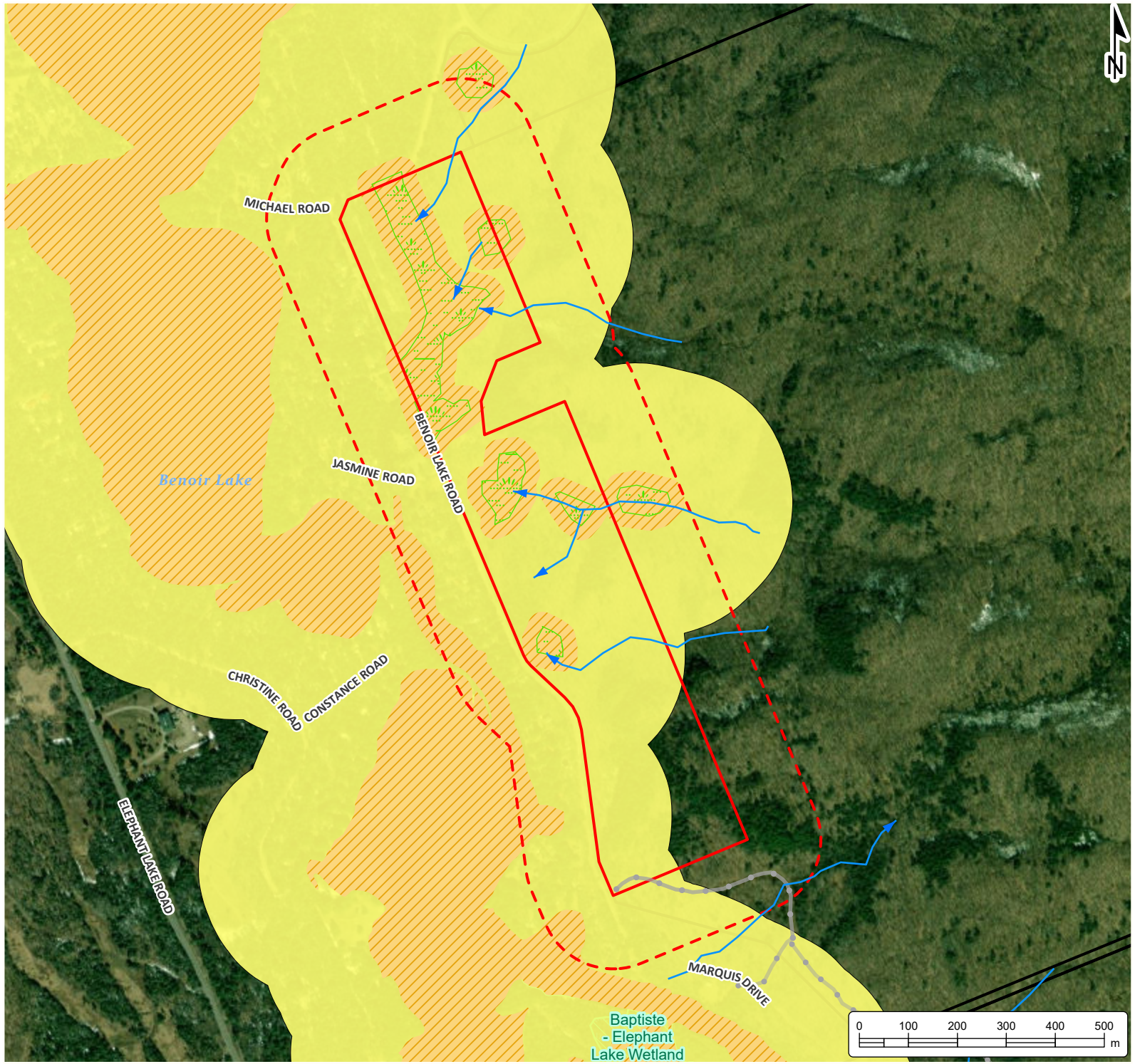

ENVIRONMENTAL IMPACT STUDY

2463756 ONTARIO INC.
Elephant Lake
Dysart, Ontario

LEGEND

- Field Verified Watercourse
- Existing Trails
- Property Boundary
- Unevaluated Wetland
- Provincially Significant Wetland
- Field Verified Wetland
- Potential Category 1/2 Habitat
- Potential Category 3 Habitat
- Northern Phase
- Adjacent Lands 150m

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BLANDINGS TURTLE GENERAL HABITAT NORTHERN PHASE

Project No.: 11996-001		Date: July 2024	Rev.:
Scale: 1:11,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: JP	Figure: 5	

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Appendix A

Conceptual Site Plans

GENERAL NOTES:

- Topographic LiDAR survey via aerial drone was sub-contracted to Drone Services Canada Inc. and supervised by King EPCM
- Horizontal Projection - NAD83(CSRS) UTM Zone 17N
- Vertical Projection - CGVD28 Height
- Field work completed during June 18 - 20th, 2024, with King EPCM field visit and data verification on June 19th, 2024

PROPOSED ZONING
WATERFRONT RESIDENTIAL 4
FRONT YARD SETBACK = 7.5M MIN.
REAR YARD SETBACK = 7.5M MIN.
SIDEYARD SETBACK, DWELLING = 4.5 MIN
SIDEYARD SETBACK, ACCESSORY = 1.0 MIN

LEGEND

- LOT PROPERTY LINE
- 30M OFFSET SHORELINE
- WETLAND BUFFER
- 1:100 YEAR FLOODPLAIN BOUNDARY
- PROVINCIALLY SIGNIFICANT WETLAND BOUNDARY LINE
- WATERCOURSE BUFFER

SCALE 1:10,000
1cm = 100m
0m 500m 1000m

GOLD LAND Architects and Engineers
ARCHITECTURAL STRUCTURAL MECHANICAL ELECTRICAL

ISSUES

NO	DESCRIPTION	DATE
1	ISSUED FOR SUBDIVISION	2024-12-12
2	REISSUE FOR SUBDIVISION	2024-12-16
3	REISSUE FOR SUBDIVISION	2025-03-19
4	REISSUE FOR SUBDIVISION	2025-04-23

KEY MAP
N.T.S.

OWNER

NF 95 Developments

PROJECT

ELEPHANT LAKE HARCOURT,
DYSART ET AL, ON

PROJECT NO:
DRAWN BY: X.G. CHECKED BY: A.R.
PROJECT MGR: X.G. APPROVED BY: D.S.

SHEET TITLE

NORTHERN PHASE
MASTER SITE PLAN

SCALE: 1:10000

SHEET NUMBER

A1-01

LEGEND

- LOT PROPERTY LINE
- WETLAND BUFFER
- WATERCOURSE BUFFER
- PROP. 1 OR 2 STOREY DWELLING
- PROP. SEPTIC SYSTEM (MINIMUM 3M OFFSET LOT BOUNDARY 5M OFFSET BUILDING)

SCALE 1:1,000
1cm = 10m
0m 50m 100m

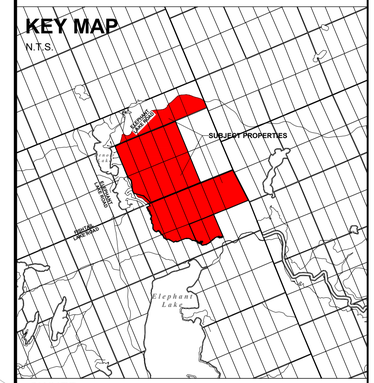
KEY PLAN
1:20,000

GOLD LAND Architects and Engineers
ARCHITECTURAL STRUCTURAL MECHANICAL ELECTRICAL

ISSUES

NO	DESCRIPTION	DATE
1	ISSUED FOR SUBDIVISION	2024-12-12
2	REISSUE FOR SUBDIVISION	2024-12-16
3	REISSUE FOR SUBDIVISION	2025-03-19
4	REISSUE FOR SUBDIVISION	2025-04-23

KEY MAP
N.T.S.



OWNER

95 Developments

PROJECT

ELEPHANT LAKE
HARCOURT,
DYSART ET AL, ON

PROJECT NO:

DRAWN BY: X.G. CHECKED BY: A.R.

PROJECT MGR: X.G. APPROVED BY: D.S.

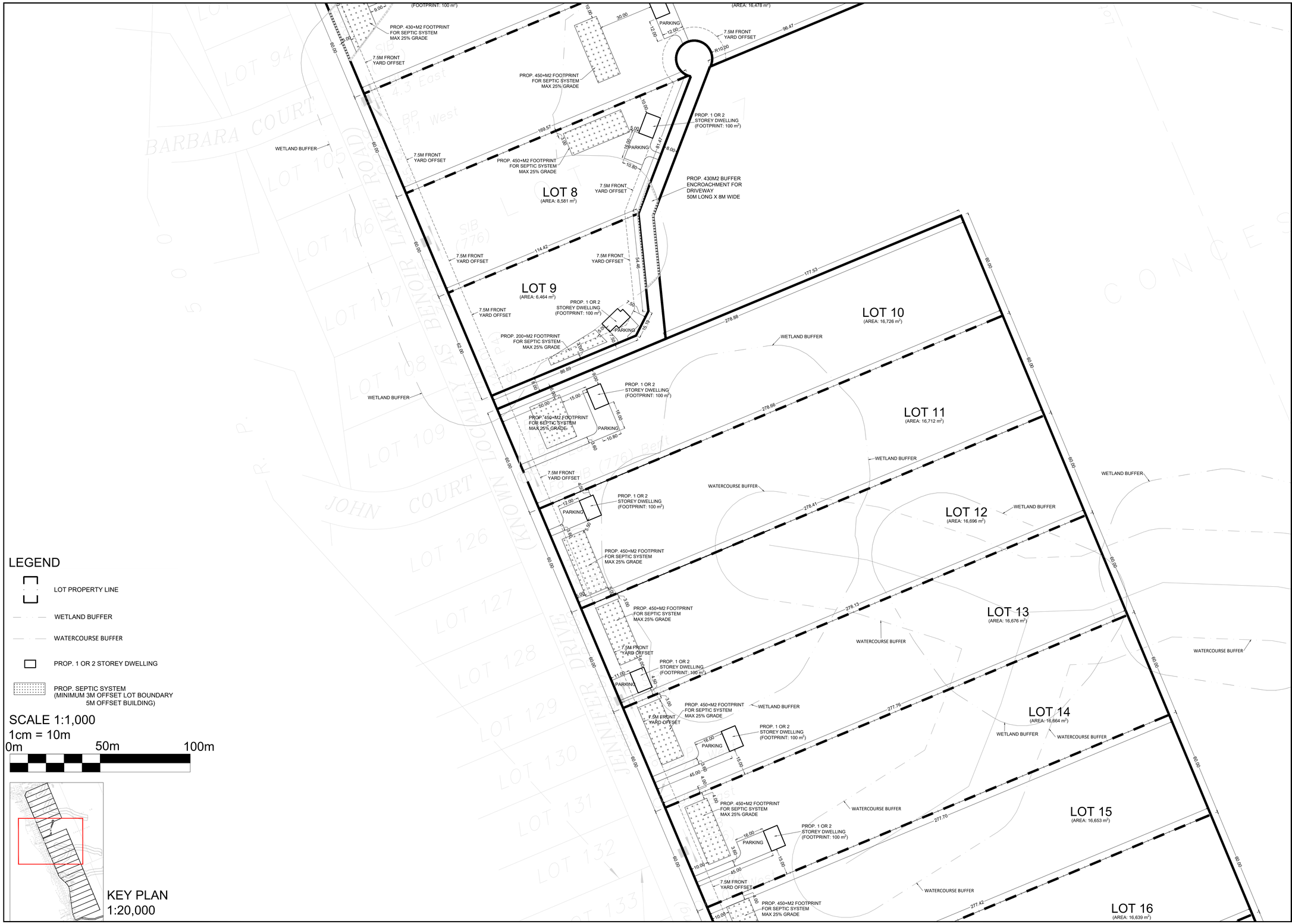
SHEET TITLE

NORTHERN PHASE
DETAILED PLAN - PAGE 1

SCALE: 1:1000

SHEET NUMBER

A1-02



LEGEND

- LOT PROPERTY LINE
- WETLAND BUFFER
- WATERCOURSE BUFFER
- PROP. 1 OR 2 STOREY DWELLING
- PROP. SEPTIC SYSTEM (MINIMUM 3M OFFSET LOT BOUNDARY 5M OFFSET BUILDING)

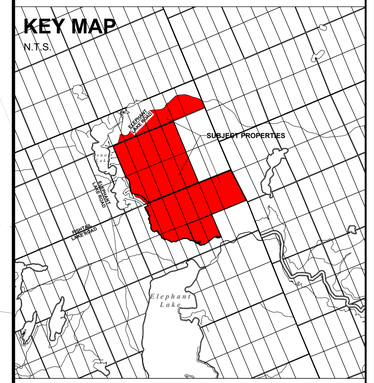
SCALE 1:1,000
1cm = 10m
0m 50m 100m

KEY PLAN
1:20,000

ISSUES

NO	DESCRIPTION	DATE
1	ISSUED FOR SUBDIVISION	2024-12-12
2	REISSUE FOR SUBDIVISION	2024-12-16
3	REISSUE FOR SUBDIVISION	2025-03-19
4	REISSUE FOR SUBDIVISION	2025-04-23

KEY MAP
N.T.S.



OWNER

NF 95 Developments®

PROJECT

ELEPHANT LAKE
HARCOURT,
DYSART ET AL, ON

PROJECT NO:

DRAWN BY: X.G. CHECKED BY: A.R.

PROJECT MGR: X.G. APPROVED BY: D.S.

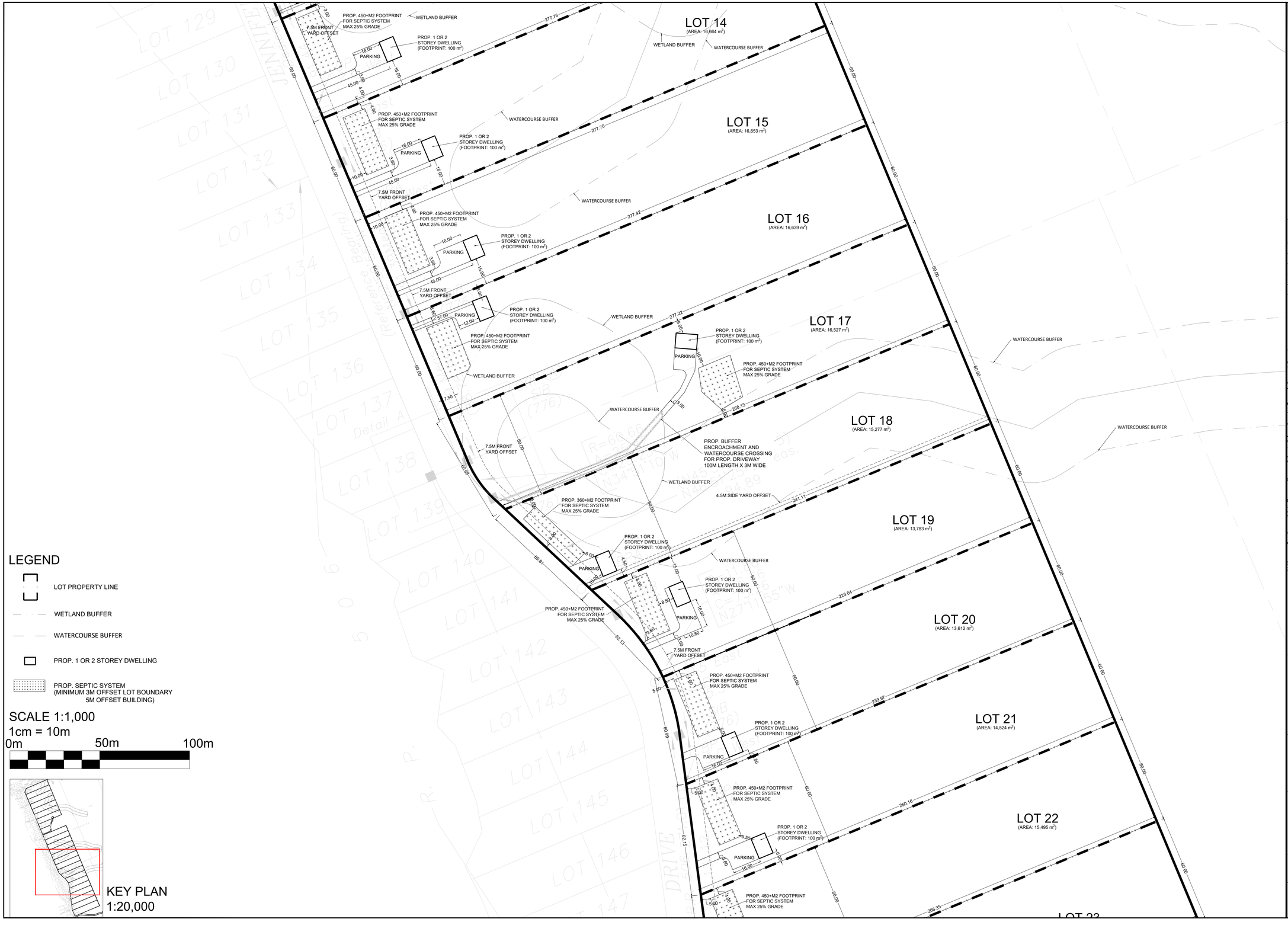
SHEET TITLE

NORTHERN PHASE
DETAILED PLAN - PAGE 2

SCALE: 1:1000

SHEET NUMBER

A1-03



LEGEND

- LOT PROPERTY LINE
- WETLAND BUFFER
- WATERCOURSE BUFFER
- PROP. 1 OR 2 STOREY DWELLING
- PROP. SEPTIC SYSTEM (MINIMUM 3M OFFSET LOT BOUNDARY 5M OFFSET BUILDING)

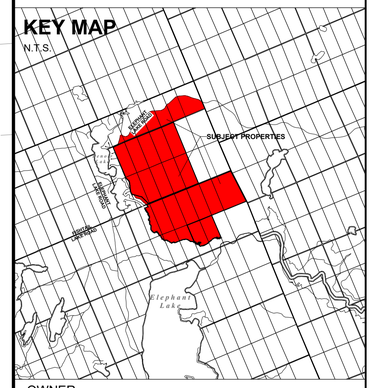
SCALE 1:1,000
1cm = 10m
0m 50m 100m

KEY PLAN
1:20,000

ISSUES

NO	DESCRIPTION	DATE
1	ISSUED FOR SUBDIVISION	2024-12-12
2	REISSUE FOR SUBDIVISION	2024-12-16
3	REISSUE FOR SUBDIVISION	2025-03-19
4	REISSUE FOR SUBDIVISION	2025-04-23

KEY MAP
N.T.S.



OWNER

NF 95 Developments

PROJECT

ELEPHANT LAKE
HARCOURT,
DYSART ET AL, ON

PROJECT NO:

DRAWN BY: X.G. CHECKED BY: A.R.

PROJECT MGR: X.G. APPROVED BY: D.S.

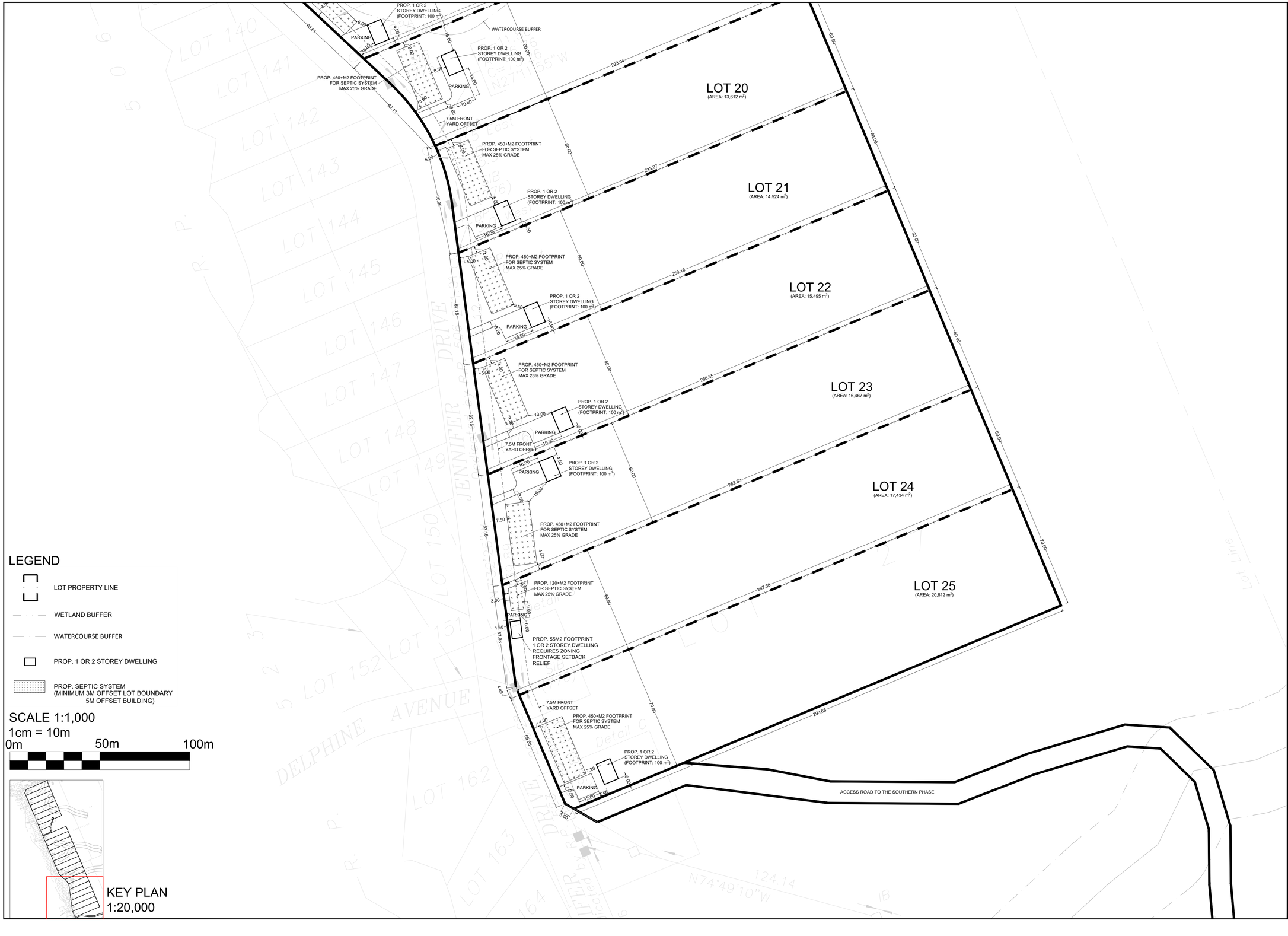
SHEET TITLE

NORTHERN PHASE
DETAILED PLAN - PAGE 3

SCALE: 1:1000

SHEET NUMBER

A1-04



LEGEND

- LOT PROPERTY LINE
- WETLAND BUFFER
- WATERCOURSE BUFFER
- PROP. 1 OR 2 STOREY DWELLING
- PROP. SEPTIC SYSTEM (MINIMUM 3M OFFSET LOT BOUNDARY 5M OFFSET BUILDING)

SCALE 1:1,000
1cm = 10m
0m 50m 100m

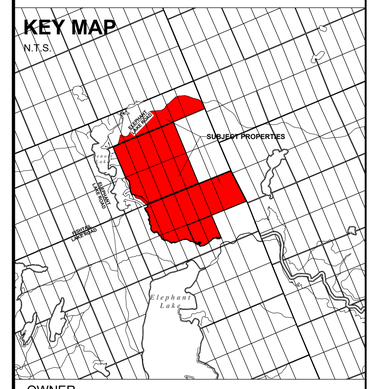
KEY PLAN
1:20,000

GOLD LAND Architects and Engineers
ARCHITECTURAL STRUCTURAL
MECHANICAL ELECTRICAL

ISSUES

NO	DESCRIPTION	DATE
1	ISSUED FOR SUBDIVISION	2024-12-12
2	REISSUE FOR SUBDIVISION	2024-12-16
3	REISSUE FOR SUBDIVISION	2025-03-19
4	REISSUE FOR SUBDIVISION	2025-04-23

KEY MAP
N.T.S.



OWNER

95 Developments

PROJECT

ELEPHANT LAKE
HARCOURT,
DYSART ET AL, ON

PROJECT NO:

DRAWN BY: X.G. CHECKED BY: A.R.

PROJECT MGR: X.G. APPROVED BY: D.S.

SHEET TITLE

NORTHERN PHASE
DETAILED PLAN - PAGE 4

SCALE: 1:1000

SHEET NUMBER

A1-05

Appendix B

Correspondence

Jeremy Prahl

From: Danielle Langlois
Sent: March 16, 2021 1:51 PM
To: paula.norlock@ontario.ca
Cc: Jeremy Prahl; Cambium File
Subject: Information Request - Elephant Lake, Dysart et al. (11996-001)
Attachments: 2020-12-03 MAP MNRF Base.pdf

Hello Paula,

Cambium has been retained to complete an Environmental Impact Study (EIS) for a large waterfront property on Elephant Lake,in the Municipality of Dysart et al, Ontario (the Site; see attached). The Site contains or is adjacent to (within 120 m of) the following natural heritage and/or hydrologic features: Elephant Lake (fish habitat), a Provincially Significant Wetland (PSW, Elephant Lake Wetland), unevaluated wetlands, and an unnamed watercourse. NHIC records for the subject lands include the following:

NHIC Data

To work further with this data select the content and copy it into your own word or exc

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSE
1062882	NATURAL AREA	ALGONQUIN PROVINCIAL PARK				
1062882	SPECIES	Midland Painted Turtle	Chrysemys picta marginata			SC
1062882	SPECIES	Snapping Turtle	Chelydra serpentina		SC	SC
1062879	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062878	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062888	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062888	SPECIES	Midland Painted Turtle	Chrysemys picta marginata			SC
1062898	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062889	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062899	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062900	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062901	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062901	SPECIES	Eastern Wolf	Canis lupus lycaon		THR	THR
1062892	NATURAL AREA	ALGONQUIN PROVINCIAL PARK				
1062892	SPECIES	Blanding's Turtle	Emydoidea blandingii		THR	END
1062902	SPECIES	(Potamogeton hillii X Potamogeton zosteriformis)	Potamogeton x ogdenii		END	END
1062908	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062909	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062909	SPECIES	(Potamogeton hillii X Potamogeton zosteriformis)	Potamogeton x ogdenii		END	END
1062910	SPECIES	(Potamogeton hillii X Potamogeton zosteriformis)	Potamogeton x ogdenii		END	END
1062911	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062911	SPECIES	(Potamogeton hillii X Potamogeton zosteriformis)	Potamogeton x ogdenii		END	END
1062912	NATURAL AREA	Baptiste - Elephant Lake Wetland				
1062912	SPECIES	(Potamogeton hillii X Potamogeton zosteriformis)	Potamogeton x ogdenii		END	END

We are requesting any additional information your office may have regarding SAR or significant natural heritage features in the local and surrounding area. In particular, any information on Elephant Lake or the Elephant Lake PSW would be helpful.

If you require further information to process this request, feel free to contact me.

Kind Regards,

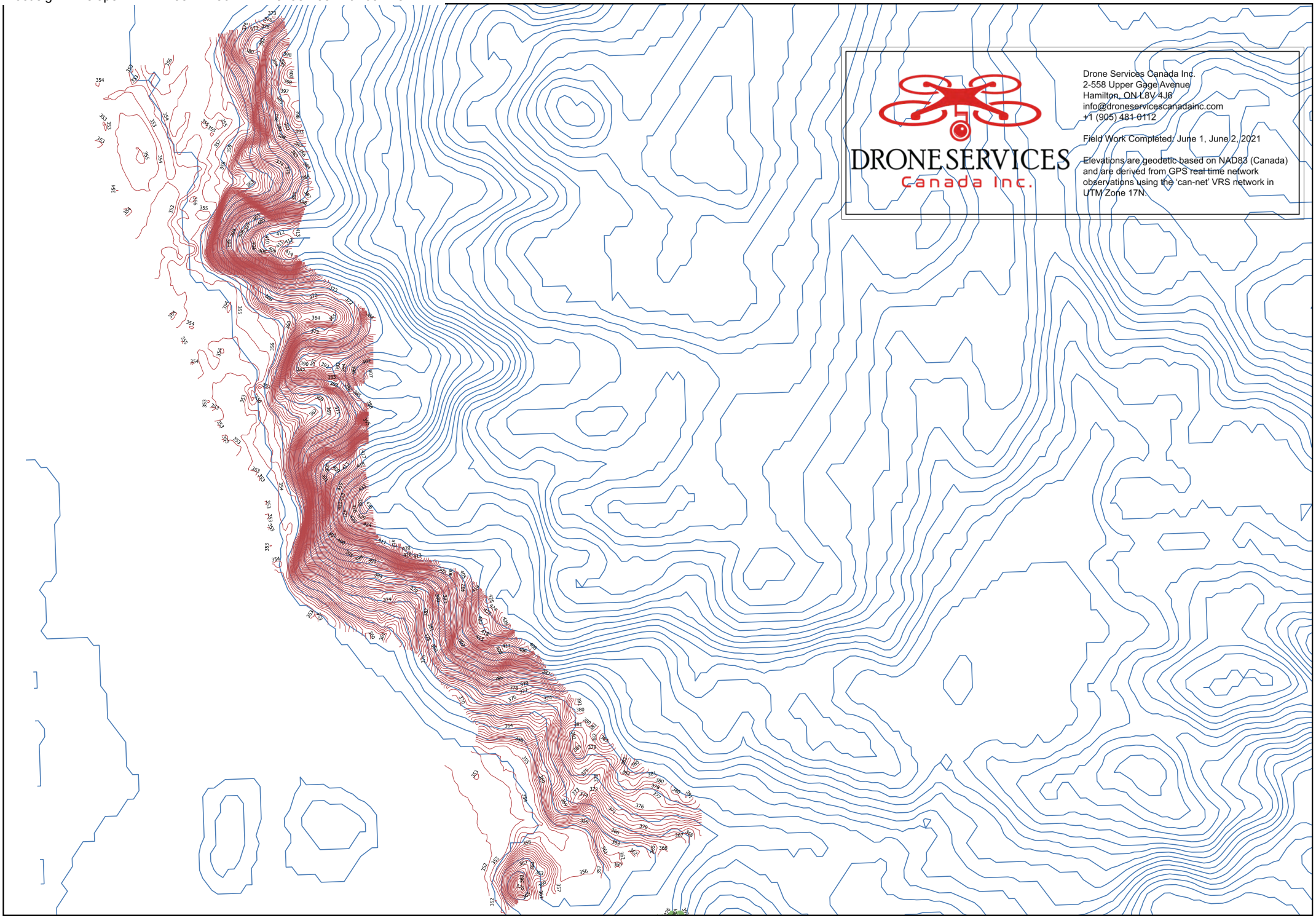
Danielle

Danielle Langlois, B.Sc., EPt
Junior Biologist / Technician

Cambium Inc. - Barrie
Environmental | Building Sciences | Geotechnical | Construction Monitoring
p: 705.719.0700 | **c:** 249.359.6112 | **toll:** 866.217.7900 | **w:** cambium-inc.com

Appendix C

Topographic Survey

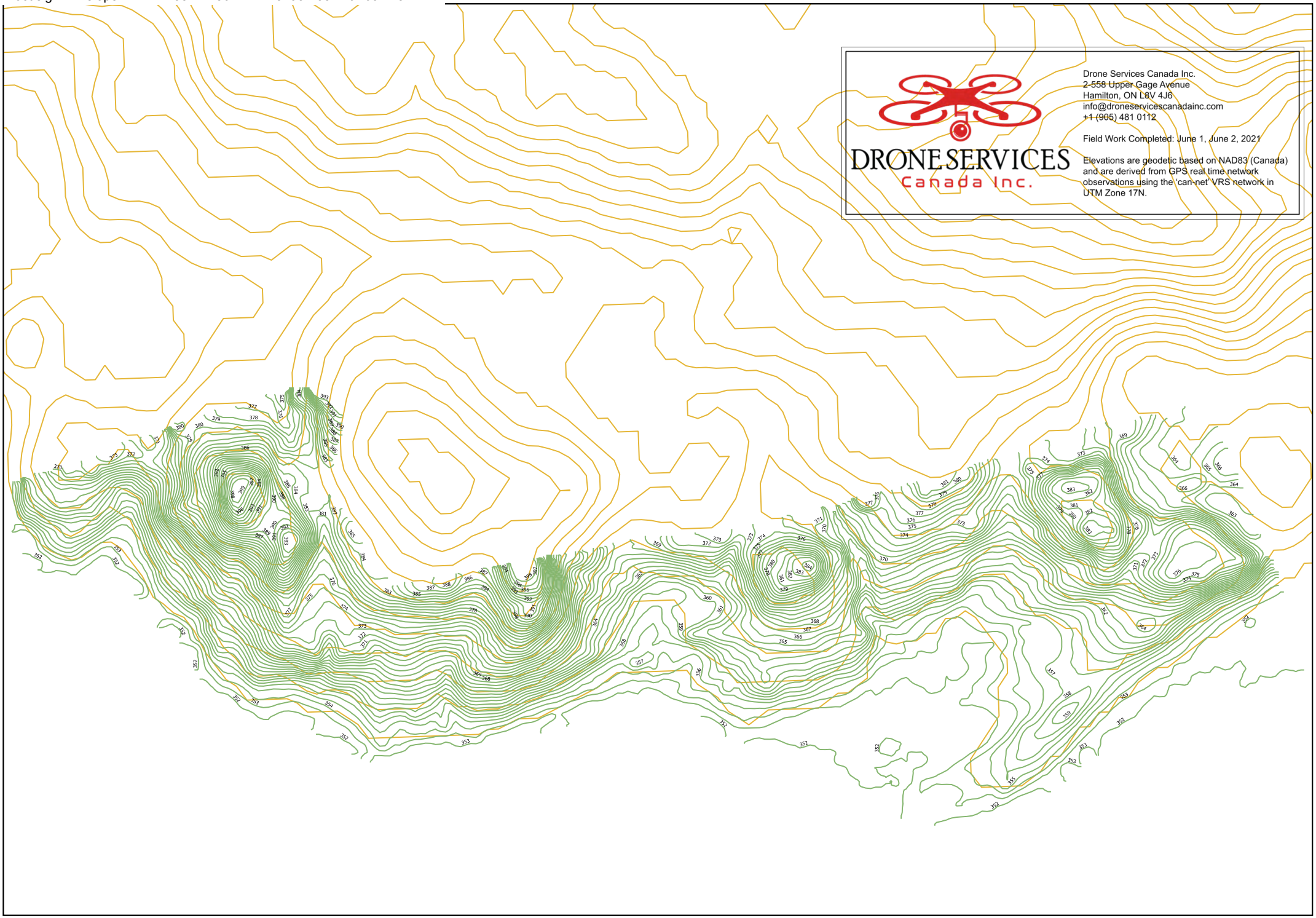


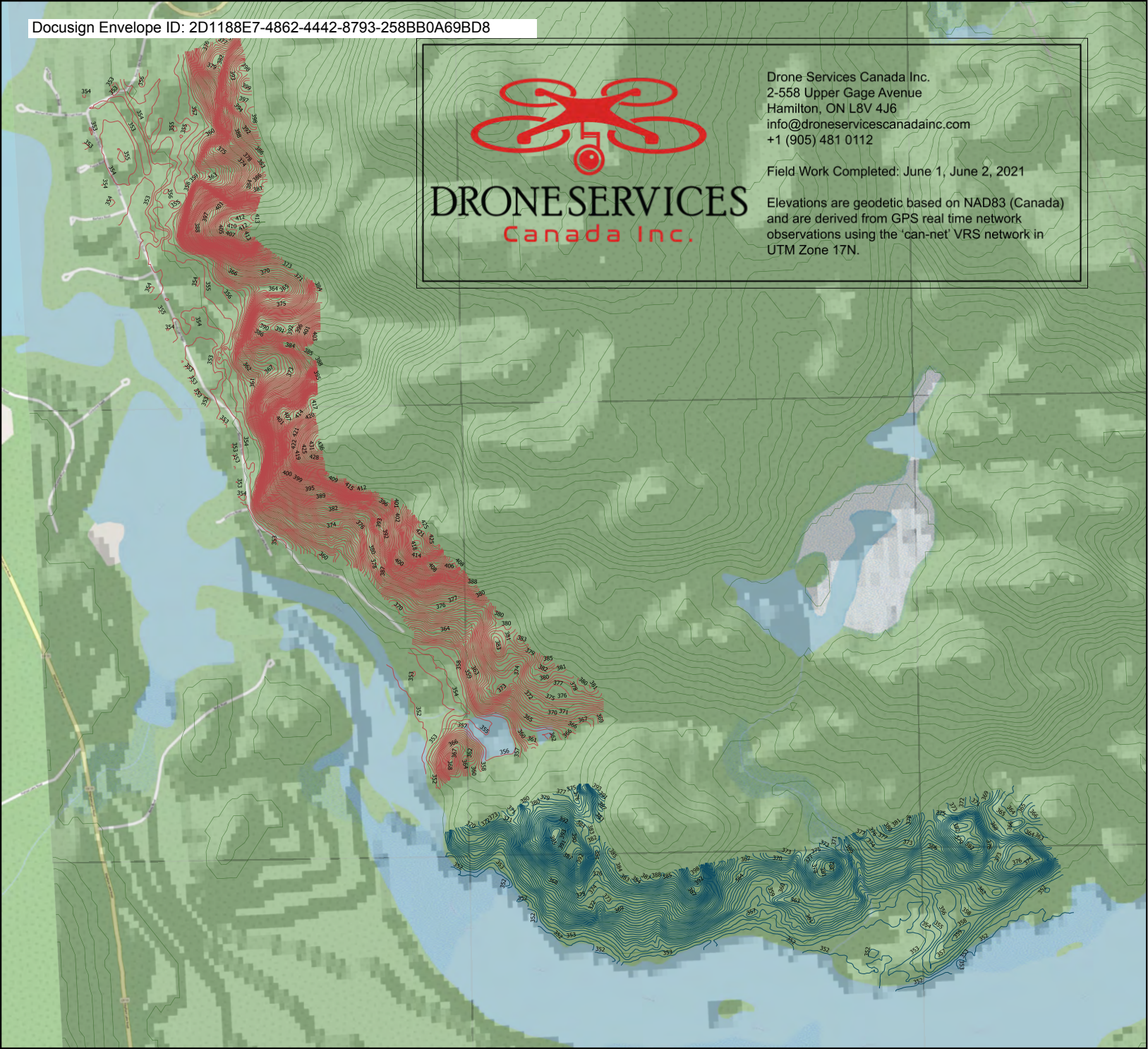
DRONE SERVICES
Canada Inc.

Drone Services Canada Inc.
2-558 Upper Gage Avenue
Hamilton, ON L8V 4J6
info@droneservicescanadainc.com
+1 (905) 481-0112

Field Work Completed: June 1, June 2, 2021

Elevations are geodetic based on NAD83 (Canada) and are derived from GPS real time network observations using the 'can-net' VRS network in UTM Zone 17N.





DRONE SERVICES
Canada Inc.

Drone Services Canada Inc.
2-558 Upper Gage Avenue
Hamilton, ON L8V 4J6
info@droneservicescanadainc.com
+1 (905) 481 0112

Field Work Completed: June 1, June 2, 2021

Elevations are geodetic based on NAD83 (Canada) and are derived from GPS real time network observations using the 'can-net' VRS network in UTM Zone 17N.

Appendix D

Vegetation Species List

1

VEGETATION COMMUNITY CLASSIFICATION: FOD5-3 COMMUNITY #: 1 LOCATION: Elephant lake COORDINATES: -78.1446024, 45.1767451

PROJECT NUMBER: 11996-001 DATE: Multiple Dates (2021) PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Alternate-leaved Dogwood	Cornus alternifolia	Cornaceae	3	6			S5
American Beech	Fagus grandifolia	Fagaceae	3	6			S4
Annual Fleabane	Erigeron annuus	Asteraceae	3	0			S5
Basswood	Tilia americana	Tiliaceae	3	4			S5
Black Cherry	Prunus serotina var. serotina	Rosaceae	3	3			S5
Black Raspberry	Rubus occidentalis	Rosaceae	5	2			S5
Blue Cohosh	Caulophyllum thalictroides	Berberidaceae	5	5			S5
Blue-stemmed Goldenrod	Solidago caesia var. caesia	Asteraceae	3	5			S5
Bunchberry	Cornus canadensis	Cornaceae	0	7			S5
Canada Enchanter's Nightshade	Circaea canadensis ssp. canadensis	Onagraceae	3	2			S5
Canada Yew	Taxus canadensis	Taxaceae	3	7			S4
Chokecherry	Prunus virginiana var. virginiana	Rosaceae	3	2			S5
Common Oak Fern	Gymnocarpium dryopteris	Dryopteridaceae	3	7			S5
Common Plantain	Plantago major	Plantaginaceae	3				SNA
Dutchman's Breeches	Dicentra cucullaria	Fumariaceae	5	6			S5
Dwarf Scouring-rush	Equisetum scirpoides	Equisetaceae	0	7			S5
Eastern Bracken Fern	Pteridium aquilinum var. latiusculum	Dennstaedtiaceae	3	2			S5
Eastern Hemlock	Tsuga canadensis	Pinaceae	3	7			S5
Eastern Hop-hornbeam	Ostrya virginiana	Betulaceae	3	4			S5
Eastern Prickly Gooseberry	Ribes cynosbati	Grossulariaceae	3	4			S5
Eastern Rose Twisted-stalk	Streptopus lanceolatus var. lanceolatus	Liliaceae	3	7			S5?
Eastern White Pine	Pinus strobus	Pinaceae	3	4			S5
Evergreen Wood Fern	Dryopteris intermedia	Dryopteridaceae	0	5			S5
Hairy Solomon's Seal	Polygonatum pubescens	Liliaceae	5	5			S5

Heart-leaved Aster	Symphyotrichum cordifolium	Asteraceae	5	5			S5
Heart-leaved Foamflower	Tiarella cordifolia	Saxifragaceae	3	6			S5
Hobblebush	Viburnum lantanoides	Caprifoliaceae	0	8			S5
Large False Solomon's Seal	Maianthemum racemosum	Liliaceae	3	4			S5
Large-toothed Aspen	Populus grandidentata	Salicaceae	5	5			S5
Marginal Wood Fern	Dryopteris marginalis	Dryopteridaceae	3	5			S5
May-apple	Podophyllum peltatum	Berberidaceae	3	5			S5
Mountain Maple	Acer spicatum	Aceraceae	3	6			S5
Northern Maidenhair Fern	Adiantum pedatum	Pteridaceae	3	7			S5
Northern Red Oak	Quercus rubra	Fagaceae	3	6			S5
Ostrich Fern	Matteuccia struthiopteris	Dryopteridaceae	0	5			S5
Paper Birch	Betula papyrifera	Betulaceae	3	2			S5
Poison Ivy	Toxicodendron radicans	Anacardiaceae	0	2			S5
Red Baneberry	Actaea rubra ssp. rubra	Ranunculaceae	3	6			S5
Red Clover	Trifolium pratense	Fabaceae	3				SNA
Red Maple	Acer rubrum	Aceraceae	0	4			S5
Red Raspberry	Rubus idaeus	Rosaceae	3	2			S5
Sharp-lobed Hepatica	Hepatica acutiloba	Ranunculaceae	5	8			S5
Smooth Brome	Bromus inermis	Poaceae	5				SNA
Staghorn Sumac	Rhus typhina	Anacardiaceae	3	1			S5
Striped Maple	Acer pensylvanicum	Aceraceae	3	7			S4
Sugar Maple	Acer saccharum	Aceraceae	3	4			S5
Tall Goldenrod	Solidago altissima	Asteraceae	3	1			S5
White Baneberry	Actaea pachypoda	Ranunculaceae	5	6			S5
White Sweet-clover	Melilotus albus	Fabaceae	3				SNA
Wild Lily-of-the-valley	Maianthemum canadense ssp. canadense	Liliaceae	3	5			S5
Wild Sarsaparilla	Aralia nudicaulis	Araliaceae	3	4			S5
Yellow Birch	Betula alleghaniensis	Betulaceae	0	6			S5
Yellow Clintonia	Clintonia borealis	Liliaceae	0	7			S5
Yellow Trout-lily	Erythronium americanum ssp. americanum	Liliaceae	5	5			S5
Zigzag Goldenrod	Solidago flexicaulis	Asteraceae	3	6			S5

VEGETATION COMMUNITY CLASSIFICATION: FOC1-2 COMMUNITY #: 2 LOCATION: Elephant Lake COORDINATES: -78.1404501, 45.1731189

PROJECT NUMBER: 11996-001 DATE: Multiple Dates (2021) PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Balsam Fir	Abies balsamea	Pinaceae	-3	5			S5
Downy Yellow Violet	Viola pubescens var. pubescens	Violaceae	3	5			S5
Dwarf Scouring-rush	Equisetum scirpoides	Equisetaceae	0	7			S5
Eastern Hemlock	Tsuga canadensis	Pinaceae	3	7			S5
Eastern White Cedar	Thuja occidentalis	Cupressaceae	-3	4			S5
Eastern White Pine	Pinus strobus	Pinaceae	3	4			S5
Fringed Milkwort	Polygaloides paucifolia	Polygalaceae	3	6			S5
Marginal Wood Fern	Dryopteris marginalis	Dryopteridaceae	3	5			S5
Rattlesnake Fern	Botrypus virginianus	Ophioglossaceae	3	5			S5
Red Pine	Pinus resinosa	Pinaceae	3	8			S5
Red Trillium	Trillium erectum	Liliaceae	3	6			S5
Stiped Maple	Acer pensylvanicum	Aceraceae	3	7			S4
Wild Lily-of-the-valley	Maianthemum canadense ssp. canadense	Liliaceae	3	5			S5
Yellow Birch	Betula alleghaniensis	Betulaceae	0	6			S5
Yellow Clintonia	Clintonia borealis	Liliaceae	0	7			S5

VEGETATION COMMUNITY CLASSIFICATION: FOM6-2 COMMUNITY #: 3 LOCATION: Elephant Lake COORDINATES: -78.1356076, 45.1677838

PROJECT NUMBER: 11996-001 DATE: Multiple Dates (2021) PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Alternate-leaved Dogwood	Cornus alternifolia	Cornaceae	3	6			S5
American Beech	Fagus grandifolia	Fagaceae	3	6			S4
Black Cherry	Prunus serotina var. serotina	Rosaceae	3	3			S5
Canada Yew	Taxus canadensis	Taxaceae	3	7			S4
Common Oak Fern	Gymnocarpium dryopteris	Dryopteridaceae	3	7			S5
Eastern Hemlock	Tsuga canadensis	Pinaceae	3	7			S5
Evergreen Wood Fern	Dryopteris intermedia	Dryopteridaceae	0	5			S5
Fringed Milkwort	Polygaloides paucifolia	Polygalaceae	3	6			S5
Hobblebush	Viburnum lantanoides	Caprifoliaceae	0	8			S5
Interrupted Fern	Claytosmunda claytoniana	Osmundaceae	0	7			S5
Northern Bush-honeysuckle	Diervilla lonicera	Caprifoliaceae	5	5			S5
Marginal Wood Fern	Dryopteris marginalis	Dryopteridaceae	3	5			S5
Ostrich Fern	Matteuccia struthiopteris	Dryopteridaceae	0	5			S5
Red Maple	Acer rubrum	Aceraceae	0	4			S5
Red Trillium	Trillium erectum	Liliaceae	3	6			S5
Striped Maple	Acer pensylvanicum	Aceraceae	3	7			S4
Sugar Maple	Acer saccharum	Aceraceae	3	4			S5
Wild Lily-of-the-valley	Maianthemum canadense ssp. canadense	Liliaceae	3	5			S5
Yellow Birch	Betula alleghaniensis	Betulaceae	0	6			S5

VEGETATION COMMUNITY CLASSIFICATION: 4 COMMUNITY #: MAS2-1 LOCATION: Elephant Lake COORDINATES: -78.135162, 45.165218

PROJECT NUMBER: 11996-001 DATE: Multiple Dates (2021) PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Bittersweet Nightshade	Solanum dulcamara	Solanaceae	0				SNA
Broad-leaved Cattail	Typha latifolia	Typhaceae	-5	1			S5
Fragrant Water-lily	Nymphaea odorata ssp. odorata	Nymphaeaceae	-5	5			S5?
Large-leaved Pondweed	Potamogeton amplifolius	Potamogetonaceae	-5	5			S5
Marsh Horsetail	Equisetum palustre	Equisetaceae	-3	10			S5
Northern Arrowhead	Sagittaria cuneata	Alismataceae	-5	7			S5
Pickerelweed	Pontederia cordata	Pontederiaceae	-5	7			S5
Red-osier Dogwood	Cornus sericea	Cornaceae	-3	2			S5
Reed Canarygrass	Phalaris arundinacea	Poaceae	-3	0			S5
Sensitive Fern	Onoclea sensibilis	Dryopteridaceae	-3	4			S5
Small Duckweed	Lemna minor	Lemnaceae	-5	5			S5?
Speckled Alder	Alnus incana ssp. rugosa	Betulaceae	-3	6			S5
Spotted Jewelweed	Impatiens capensis	Balsaminaceae	-3	4			S5
Variegated Pond-lily	Nuphar variegata	Nymphaeaceae	-5	7			S5

VEGETATION COMMUNITY CLASSIFICATION: 5 COMMUNITY #: SWD2-1 LOCATION: Elephant Lake COORDINATES: -78.146740, 45.179400

PROJECT NUMBER: 11996-001 DATE: Multiple Dates (2021) PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Balsam Fir	Abies balsamea	Pinaceae	-3	5			S5
Bebb's Sedge	Carex bebbii	Cyperaceae	-5	3			S5
Bebb's Willow	Salix bebbiana	Salicaceae	-3	4			S5
Black Ash	Fraxinus nigra	Oleaceae	-3	7			S3
Brownish Sedge	Carex brunnescens ssp. brunnescens	Cyperaceae	-3	6			SU
Cyperus-like Sedge	Carex pseudocyperus	Cyperaceae	-5	6			S5
Foxtail Sedge	Carex alopecoidea	Cyperaceae	-3	6			S4
Graceful Sedge	Carex gracillima	Cyperaceae	3	4			S5
Grey Alder	Alnus incana	Betulaceae	0	6			S5
Necklace Sedge	Carex projecta	Cyperaceae	-3	5			S5
Red Maple	Acer rubrum	Aceraceae	0	4			S5
Red-osier Dogwood	Cornus sericea	Cornaceae	-3	2			S5
Sensitive Fern	Onoclea sensibilis	Dryopteridaceae	-3	4			S5
Spotted Jewelweed	Impatiens capensis	Balsaminaceae	-3	4			S5
Tall Mannagrass	Glyceria grandis	Poaceae	-5	5			S5
Yellow Birch	Betula alleghaniensis	Betulaceae	0	6			S5

VEGETATION COMMUNITY CLASSIFICATION: MAS2-9 COMMUNITY #: 6 LOCATION: Elephant Lake COORDINATES: 44.5973365, -78.1955826

PROJECT NUMBER: 11996-001 DATE: Multiple Dates (2021) PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Bebb's Willow	Salix bebbiana	Salicaceae	-3	4			S5
Black Ash	Fraxinus nigra	Oleaceae	-3	7			S3
Brownish Sedge	Carex brunnescens ssp. brunnescens	Cyperaceae	-3	6			SU
Cinnamon Fern	Osmundastrum cinnamomeum	Osmundaceae	-3	7			S5
Common Lady Fern	Athyrium filix-femina	Dryopteridaceae	0	4			S5
Cyperus-like Sedge	Carex pseudocyperus	Cyperaceae	-5	6			S5
Marsh Fern	Thelypteris palustris	Thelypteridaceae	-3	5			S5
Marsh Fern	Thelypteris palustris	Thelypteridaceae	-3	5			S5
Necklace Sedge	Carex projecta	Cyperaceae	-3	5			S5
Nodding Beggarticks	Bidens cernua	Asteraceae	-5	2			S5
Ostrich Fern	Matteuccia struthiopteris	Dryopteridaceae	0	5			S5
Red-osier Dogwood	Cornus sericea	Cornaceae	-3	2			S5
Retrorse Sedge	Carex retrorsa	Cyperaceae	-5	5			S5
Sensitive Fern	Onoclea sensibilis	Dryopteridaceae	-3	4			S5
Silver Maple	Acer saccharinum	Aceraceae	-3	5			S5
Speckled Alder	Alnus incana ssp. rugosa	Betulaceae	-3	6			S5
Spotted Jewelweed	Impatiens capensis	Balsaminaceae	-3	4			S5
Swamp Milkweed	Asclepias incarnata ssp. incarnata	Apocynaceae	-5	6			S5
Tall Mannagrass	Glyceria grandis var. grandis	Poaceae	-5	5			S5

VEGETATION COMMUNITY CLASSIFICATION: SWM5-4 COMMUNITY #: 7 LOCATION: Elephant Lake COORDINATES: -78.137333, 45.166498

PROJECT NUMBER: 11996-001 DATE: Multiple Dates (2021) PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Balsam Fir	Abies balsamea	Pinaceae	-3	5			S5
Bulblet Bladder Fern	Cystopteris bulbifera	Dryopteridaceae	-3	5			S5
Common Lady Fern	Athyrium filix-femina	Dryopteridaceae	0	4			S5
Dwarf Scouring-rush	Equisetum scirpoides	Equisetaceae	0	7			S5
Eastern White Cedar	Thuja occidentalis	Cupressaceae	-3	4			S5
Grey Dogwood	Cornus racemosa	Cornaceae	0	2			S5
Northern Starflower	Lysimachia borealis	Primulaceae	0	6			S5
Red Maple	Acer rubrum	Aceraceae	0	4			S5
Red-osier Dogwood	Cornus sericea	Cornaceae	-3	2			S5
Running Clubmoss	Lycopodium clavatum	Lycopodiaceae	0	6			S5
Sensitive Fern	Onoclea sensibilis	Dryopteridaceae	-3	4			S5
Tamarack	Larix laricina	Pinaceae	-3	7			S5
Yellow Birch	Betula alleghaniensis	Betulaceae	0	6			S5
Yellow Clintonia	Clintonia borealis	Liliaceae	0	7			S5

Appendix E

Photographic Log

Photo 1 Community 1, April 14, 2021.

Photo 2 Community 1, March 31, 2021.

Photo 3 Community 1, March 31, 2021.

Photo 4 Community 1, June 10, 2024.

Photo 5 Community 1, June 27, 2024.

Photo 6 Community 2, May 23, 2024.

Photo 7 Community 2, May 23, 2024.

Photo 8 Community 2, May 24, 2024.

Photo 9 Community 2, May 24, 2024.

Photo 10 Community 2, May 24, 2024.

Photo 11 Community 3, April 14, 2021.

Photo 12 Community 3, May 23, 2024

Photo 13 Community 3, May 23, 2024

Photo 14 Community 3, June 10, 2024.

Photo 15 Community 3, June 10, 2024.

Photo 16 Community 5, June 27, 2024.

Photo 17 Community 5, May 22, 2024.

Photo 18 Community 5, May 22, 2024.

Photo 19 Community 5, May 23, 2024.

Photo 20 Community 5, April 14, 2021.

Photo 21 Community 7, May 23, 2024.

Photo 22 Community 7, June 25, 2024.

Appendix F

Fish Species List

Table - Fish Species List and Life History Information

Family	Common name	Scientific name	S-Rank	SARA	ESA	Tolerance [1]	Thermal Regime [1]	Spawning Months [1]	Spawning Habitat Preferences [2]													
									Water depth (m)				Cover		Substrate							
									0-1	1-2	2-5	5+	Submergent Vegetation	Emergent vegetation	Bedrock	Boulder	Cobble	Rubble	Gravel	Sand	Silt	Clay	Hard-pan Clay
Catostomidae	White Sucker	*Catostomus commersoni*	S5			Tolerant	Coolwater	April-June	X	X	-	-	low	low	-	-	-	medium	high	medium	-	-	-
Centrarchidae	Largemouth Bass	*Micropterus salmoides*	S5			Tolerant	Warmwater	May-June	X	X	-	-	medium	high	-	-	-	low	low	high	high	high	-
Centrarchidae	Pumpkinseed	*Lepomis gibbosus*	S5			Intermediate	Warmwater	May-August	X	X	-	-	high	high	-	-	-	-	high	high	-	medium	-
Centrarchidae	Rock Bass	*Ambloplites rupestris*	S5			Intermediate	Coolwater	May-June	X	X	-	-	low	low	-	-	high	high	high	medium	medium	medium	-
Centrarchidae	Smallmouth Bass	*Micropterus dolomieu*	S5			Intermediate	Coolwater	May-June	X	X	-	-	low	low	medium	-	-	high	high	medium	-	-	-
Cyprinidae	Golden Shiner	*Notemigonus crysoleucas*	S5			Intermediate	Coolwater	June-August	X	X	-	-	high	high	-	-	-	-	-	high	high	-	-
Esocidae	Muskellunge	*Esox masquinongy*	S4			Intermediate	Warmwater	April-May	X	X	-	-	high	high	-	-	-	-	-	medium	high	high	-
Ictaluridae	Brown Bullhead	*Ameiurus nebulosus*	S5			Intermediate	Warmwater	May-June	X	X	-	-	medium	medium	-	-	-	-	-	high	high	high	-
Percidae	Yellow Perch	*Perca flavescens*	S5			Intermediate	Coolwater	April-May	X	X	X	X	medium	medium	-	-	-	medium	high	high	medium	medium	-
Percidae	Walleye	*Sander vitreus vitreus*	S5			Intermediate	Coolwater	April-June	X	X	X	X	low	low	high	high	high	high	high	high	-	-	high

Note:

A dash (-) indicated that the species was not reported to utilize a particular depth stratum, cover or substrate.

Tolerance refers to the ability of a species to adapt to environmental perturbations or anthropogenic stresses.

1 Eakins, R. J. (2018). Ontario Freshwater Fishes Life History Database. Version 4.81. Online database. (http://www.ontariofishes.ca), accessed 26 July 2018

2 Lane, J. A., Minns, C. K., & Portt, C. B. (1996). Spawning habitat characteristics of Great Lakes fishes (p. 47). Fisheries and Oceans Canada

Appendix G

Bird Species List

VEGETATION COMMUNITY CLASSIFICATION: FOD5-3 | LOCATION: Elephant lake | COORDINATES: 44.5973366, -78.1955819 | POINT COUNT #: 1

PROJECT NUMBER: 11996 | DATE: June 02, 2021 July 09 2021 | PROJECT MANAGER: J. Prahl | FIELD STAFF: Keegan McKitterick

FIELD SHEET – Bird Species List

NOTES: North end of block A near wetlands (off site)

June 02, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Black-throated Blue Warbler	Setophaga caerulescens	Parulidae			S5B	S
Red-eyed Vireo	Vireo olivaceus	Vireonidae			S5B	S
Black-throated Green Warbler	Setophaga virens	Parulidae			S5B	S
Wood Duck	Aix sponsa	Anatidae			S5	P
Veery	Catharus fuscescens	Turdidae			S4B	S
Common Yellowthroat	Geothlypis trichas	Parulidae			S5B	S
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
Ovenbird	Seiurus aurocapilla	Parulidae			S4B	S
Pine Warbler	Setophaga pinus	Parulidae			S5B	S
White-breasted Nuthatch	Sitta carolinensis	Sittidae			S5	S
Black-capped Chickadee	Poecile atricapillus	Paridae			S5	S

July 09, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Red-eyed Vireo	Vireo olivaceus	Vireonidae			S5B	S
Wood Duck	Aix sponsa	Anatidae			S5	P
Common Yellowthroat	Geothlypis trichas	Parulidae			S5B	S
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
White-breasted Nuthatch	Sitta carolinensis	Sittidae			S5	S
Black-capped Chickadee	Poecile atricapillus	Paridae			S5	S

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
CF= Adult carrying food for young
NE= Nest containing eggs

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
NU= Used nest or egg shell found (occupied or laid within the period of study)
FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

VEGETATION COMMUNITY CLASSIFICATION: FOC3-1 LOCATION: Elephant lake COORDINATES: 44.5973366, -78.1955819 POINT COUNT #: 2

PROJECT NUMBER: 11996-001 DATE: June 02, 2021 Jult 09, 2021 PROJECT MANAGER: J. Prahl FIELD STAFF: Keegan McKitterick

FIELD SHEET – Bird Species List

June 02, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Pine Warbler	Setophaga pinus	Parulidae			S5B	S
Black-capped Chickadee	Poecile atricapillus	Paridae			S5	S
Pileated Woodpecker	Dryocopus pileatus	Picidae			S5	S
Ovenbird	Seiurus aurocapilla	Parulidae			S4B	S
Black-throated Blue Warbler	Setophaga caerulescens	Parulidae			S5B	S
Veery	Catharus fuscescens	Turdidae			S4B	S
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
Downy Woodpecker	Picoides pubescens	Picidae			S5	H
Common Yellowthroat	Geothlypis trichas	Parulidae			S5B	S
American Crow	Corvus brachyrhynchos	Corvidae			S5B	S

July 09, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Pine Warbler	Setophaga pinus	Parulidae			S5B	S
Black-capped Chickadee	Poecile atricapillus	Paridae			S5	S
Pileated Woodpecker	Dryocopus pileatus	Picidae			S5	S
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
Downy Woodpecker	Picoides pubescens	Picidae			S5	H
Common Yellowthroat	Geothlypis trichas	Parulidae			S5B	S
American Redstart	Setophaga ruticilla	Parulidae			S5B	S

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
CF= Adult carrying food for young
NE= Nest containing eggs

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
NU= Used nest or egg shell found (occupied or laid within the period of study)
FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

VEGETATION COMMUNITY CLASSIFICATION: FOC1-3 LOCATION: Elephant lake COORDINATES: 44.5973366, -78.1955819 POINT COUNT #: 3

PROJECT NUMBER: 11996 DATE: June 02 2021 July 09 2021 PROJECT MANAGER: FIELD STAFF: Keegan McKitterick

FIELD SHEET – Bird Species List

Notes: Near residential cottage area to east

June 02 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Wood Thrush	Hylocichla mustelina	Turdidae	THR	SC	S4B	S
Pileated Woodpecker	Dryocopus pileatus	Picidae			S5	S
Pine Warbler	Setophaga pinus	Parulidae			S5B	S
Black-capped Chickadee	Poecile atricapillus	Paridae			S5	P
Black-throated Green Warbler	Setophaga virens	Parulidae			S5B	S
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
Eastern Phoebe	Sayornis phoebe	Tyrannidae			S5B	S
Common Loon	Gavia immer	Gaviidae		NAR	S5B,S5N	S
Ovenbird	Seiurus aurocapilla	Parulidae			S4B	S
Downy Woodpecker	Picoides pubescens	Picidae			S5	H
Blue Jay	Cyanocitta cristata	Corvidae			S5	S
American Robin	Turdus migratorius	Turdidae			S5B	S
Song Sparrow	Melospiza melodia	Passerellidae			S5B	S
White-breasted Nuthatch	Sitta carolinensis	Sittidae			S5	S

June 02 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Black-capped Chickadee	Poecile atricapillus	Paridae			S5	P
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
Eastern Phoebe	Sayornis phoebe	Tyrannidae			S5B	S
Common Loon	Gavia immer	Gaviidae		NAR	S5B,S5N	S
Common Yellowthroat	Geothlypis trichas	Parulidae			S5B	S
Downy Woodpecker	Picoides pubescens	Picidae			S5	H
Blue Jay	Cyanocitta cristata	Corvidae			S5	S
American Robin	Turdus migratorius	Turdidae			S5B	S
Song Sparrow	Melospiza melodia	Passerellidae			S5B	S
White-breasted Nuthatch	Sitta carolinensis	Sittidae			S5	S

VEGETATION COMMUNITY CLASSIFICATION: Shoreline FOD5-3

LOCATION: Elephant lake

COORDINATES: 44.5973366, -78.1955819

POINT COUNT #: 4

PROJECT NUMBER: 11996-001

DATE: June 02, 2021 July 09 2021

PROJECT MANAGER: J. Prahl

FIELD STAFF: Keegan McKitterick

FIELD SHEET – Bird Species List

June 02, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Mallard	Anas platyrhynchos	Anatidae			S5	H
Wood Duck	Aix sponsa	Anatidae			S5	H
American Wigeon	Anas americana	Anatidae			S4	H
Blue-winged Teal	Anas discors	Anatidae			S4	H
Common Loon	Gavia immer	Gaviidae		NAR	S5B,S5N	H
Great Blue Heron	Ardea herodias	Ardeidae			S4	H
Bufflehead	Bucephala albeola	Anatidae			S4	H
Common Yellowthroat	Geothlypis trichas	Parulidae			S5B	S
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
American Robin	Turdus migratorius	Turdidae			S5B	H
Eastern Phoebe	Sayornis phoebe	Tyrannidae			S5B	S

July 09, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
Mallard	Anas platyrhynchos	Anatidae			S5	H
Common Loon	Gavia immer	Gaviidae		NAR	S5B,S5N	H
Eastern Kingbird	Tyrannus tyrannus	Tyrannidae			S4B	H
Magnolia Warbler	Setophaga magnolia	Parulidae			S5B	S
Great Blue Heron	Ardea herodias	Ardeidae			S4	H
Common Yellowthroat	Geothlypis trichas	Parulidae			S5B	S
Chestnut-sided Warbler	Setophaga pensylvanica	Parulidae			S5B	S
American Robin	Turdus migratorius	Turdidae			S5B	H
Eastern Phoebe	Sayornis phoebe	Tyrannidae			S5B	S

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
NU= Used nest or egg shell found (occupied or laid within the period of study)
FY= Recently fledged young or downy young, including young incapable to sustain flight

Appendix H

Species of Conservation Concern Screening

APPENDIX: Species of Conservation Concern - Haliburton 5E

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
Birds								
Bald Eagle	*Haliaeetus leucocephalus*	No Status	SC	S2N,S4B	The Bald Eagle is a bird of prey with a white head, neck and tail, a massive bright yellow beak, powerful legs, and a wingspan of over 2 m. It nests in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. These nests are usually on islands in freshwater lakes or in large trees such as the pine and poplar. During the winter, they may also be found near open bodies of water that do not freeze (1).	No		No further consideration required
Bank Swallow	*Riparia riparia*	THR	THR	S4B	The Bank Swallow is a small songbird of around 12 cm long with a distinctive dark breast band, that flies with quick and erratic wingbeats (1). It nests in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. This can include banks of rivers and lakes, bluffs, active sand and gravel pits, road cuts and stockpiles of soils. However, they prefer sand-silt substrates for excavating their nest burrows. They often use large wetlands as communal nocturnal roosts post-breeding or during wintering periods (2).	No		No further consideration required
Barn Swallow	*Hirundo rustica*	THR	THR	S4B	The Barn Swallow is a mid-sized songbird with steel-blue backs and wings, glossy in males, and a line of white spots across its upper tail. It lives in a variety of open habitats for foraging, such as grassy fields, pastures, certain agricultural crops, shorelines, cottage areas, wetlands, or subarctic tundra (2). They prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud, typically attached to horizontal beams or vertical walls underneath an overhang (1).	No		No further consideration required
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	The Bobolink is a mid-sized songbird of tan colour with black stripes, except for males during summer breeding season who are black with a white back and yellow collar. It prefers tall, grassy meadows, hayfields and some croplands, and feeds (largely on insects) on the ground in dense grasses (1). It tends to nest in forage crops: hayfields and pastures dominated by species including clover, bluegrass, and broadleaf plants (2).	No		No further consideration required
Canada Warbler	*Cardellina canadensis*	THR	SC	S4B	The Canada Warbler is a small songbird with bright yellow underparts and bluish-grey back and tail (1). It can be found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. Nests are usually located on or near the ground on mossy logs, and along stream banks (3).	Yes: on-site	Confirmed absent through targeted surveys	No further consideration required
Chimney Swift	*Chaetura pelagica*	THR	THR	S4B,S4N	The Chimney Swift is a small bird, between 12 and 14 cm, with a brown, cigar-shaped body, slender wings, and an erratic flight pattern. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow trees. Now, it is found mostly near urban and suburban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. They also tend to stay in habitat close to the water (1).	No		No further consideration required
Common Nighthawk	*Chordeiles minor*	THR	SC	S4B	The Common Nighthawk is a medium-sized bird with long, pointed wings, a long tail with a notch, and and large eyes. Its plumage of dark brown with black and white specks blends with its roost site. It is typically found in open areas such as gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailing areas, cultivated fields, urban parks, gravel roads, and orchards (1).	No		No further consideration required
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4B	The Eastern Meadowlark is a medium-sized migratory songbird with a bright yellow throat and belly, a black V shape on its chest, and a pointed bill. It prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields, human-use areas such as airports and roadsides, or other open areas. The Eastern Meadowlark can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses (1).	No		No further consideration required
Eastern Whip-poor-will	*Antrostomus vociferus*	THR	THR	S4B	The Eastern Whip-poor-will is a medium-sized bird with mottled brown and grey feathers to blend in with its surroundings, a large flattened head, and small bill. They are usually found in areas with a mix of open and forested areas such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands or openings in more mature forests. Breeding habitat is dependent on forest structure rather than composition, although common tree associations are pine and oak, and it nests directly on the forest floor (2). The species prefers to nest in semi-open or patchy forests with clearings as it forages in open areas and uses forested areas for roosting (1).	Yes: on-site	Confirmed absent through targeted surveys	No further consideration required
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	The Eastern Wood-pewee is a species of 'flycatcher', a bird that eats flying insects. It grows to approximately 15 cm, has greyish-olive upper parts and pale bars on its wings. This species lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation (1). It typically creates nests on tree branches 2-12 m in height (2).	Yes: on-site	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	S4B	The Evening Grosbeak is a large songbird with a thick greenish bill. It is a social bird that is often found in flocks, particularly during the winter months. Their preferred habitat is thick coniferous forest. During their breeding season, they are generally found in open, mature mixed forests dominated by Firs, White Spruce, or Trembling Aspen (1).	No		No further consideration required
Golden Winged Warbler	*Vermivora chrysoptera*	THR	SC	S4B	The Golden-winged Warbler is a small songbird with distinctive yellow wing patches and patches behind their eyes. It inhabits early successional habitat of old fields and favour areas where trees are spread out or forest edges to use for perching, singing, and searching for food. They seem to prefer regeneration zones with young shrub growth, surrounded by mature forest, locations that have recently been disturbed, such as field edges, hydro or utility right-of-ways, or logged areas for their breeding sites; often frequenting clusters of herbaceous plants and low bushes (1).	No		No further consideration required
Least Bittern	*Ixobrychus exilis*	THR	THR	S4B	The Least Bittern is a small member of the heron family, reaching around 30 cm in length. It has brown and beige plumage with chestnut patches on its wings (1). The species nests in marshes (> 5 - 10 ha) and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. They require dense vegetation and open water with stable levels within 10 m for nesting, and access to clear, open water for foraging (4).	No		No further consideration required
Olive-sided Flycatcher	*Contopus cooperi*	THR	SC	S4B	The Olive-sided Flycatcher is a medium-sized songbird with olive colouring, often seen perching on top of tall trees waiting to catch their prey. It prefers open areas along natural mature forest edges, forest edges near natural openings such as rivers or swamps, human-made openings, or burned forest openings with numbers of dead trees. Breeding habitat usually consists of coniferous or mixed forests adjacent to rivers or wetlands, in Ontario often nesting in White and Black Spruce, Jack Pine, and Balsam Fir (1).	No		No further consideration required
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	S4B	The Red-headed Woodpecker is a mid-sized bird, at around 20 cm long, with a vivid red head, neck and breast as well a strong bill. The species can be found in open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. These areas must contain a large number of dead trees for perching and nesting (1).	No		No further consideration required

Rusty Blackbird	*Euphagus carolinus*	SC	SC	S4B	The Rusty Blackbird, a medium-sized songbird with pale, yellow eyes and a slender black bill, has recently been listed as special concern both federally and provincially. The species breeds in habitats dominated by coniferous forest with wetlands nearby including bogs, marshes, and beaver ponds. In Ontario, their breeding range is found in the Hudson Bay Lowlands and northern Boreal Shield ecozones. During the winter, it can be found in wet woodlands, swamps, and pond edges plus often foraging in agricultural lands (1).	No		No further consideration required
Wood Thrush	*Hylocichla mustelina*	THR	SC	S4B	The Wood Thrush is a medium-sized songbird of around 20 cm with rusty brown coloured upper parts and white underparts with large dark spots. It breeds in deciduous and mixed forests with moderate understories, shade and abundant leaf litter where it forages for food, including larval and adult insects as well as plant material. They prefer moist stands of trees with well-developed undergrowth and tall trees for perches (1).	Yes: on-site	Known to occur in the general area	Potential significant wildlife habitat on-site
Fish								
American Eel	*Anguilla rostrata*	No Status	END	S1?	The American Eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. At the juvenile stage, they swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for 8 to 23 years before migrating back to their spawning grounds. In Ontario, the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible (2).	No		No further consideration required
Lake Sturgeon	*Acipenser fulvescens*	No Status	END	S2	The Lake Sturgeon, a large freshwater fish, has an extended snout with four whisker-like organs hanging near the mouth and is dark to light brown or grey on its back and sides with a lighter belly. In Ontario, this fish is found in the rivers of the Hudson Bay Basin, the Great Lakes basin, and their connecting waterways. Lake Sturgeon's live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel and are usually found at depths of 5 to 20 m. They spawn in relatively shallow, fast-flowing water or if available deeper water habitat as well (1).	No		No further consideration required
Herptiles								
Blanding's Turtle	*Emydoidea blandingii*	END	THR	S3	Blanding's Turtles are identifiable by their bright yellow throat and chin and domed shell. They spend the majority of their life cycle in the aquatic environment, usually in large wetlands or shallow lakes with high densities of water plants (1). These turtles prefer shallow, nutrient rich water with organic sediment and dense vegetation. They use terrestrial sites for travel between habitat patches and to lay clutches of eggs, often going hundreds of meters from their nearest water body. Blanding's Turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (2). From late October until the end of April, they hibernate in the mud at the bottom of permanent water bodies (1).	Yes: on-site	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Midland Painted Turtle	*Chrysemys picta marginata*	SC	-	S4	The Midland Painted Turtle has a olive to black carapace with red or dark orange markings on the marginal scutes, as well as red and yellow stripes on the head and neck. The species uses a variety of waterbodies including, ponds, marshes, lakes and slow-moving creeks with a soft bottom and an abundance of basking sites and aquatic vegetation. This species usually hibernates on the bottom of waterbodies (5).	Yes: on-site	Known to occur in the general area	Confirmed significant wildlife habitat on-site
Snapping Turtle	*Chelydra serpentina*	SC	SC	S3	The Snapping Turtle, with its large serrated carapace, small plastron, and spiked tail, is Canada's largest freshwater turtle (5). It spends the majority of its life in water, preferring shallow water with soft mud and leaf litter, and will travel upland to gravel or sandy embankments, roadsides, along railway lines or beaches to lay their eggs (1).	Yes: on-site	Known to occur in the general area	Potential significant wildlife habitat on adjacent lands
Spotted Turtle	*Clemmys guttata*	END	END	S2	The Spotted Turtle is named after the distinct yellow spots on its carapace. The species is semi-aquatic and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation. This species usually hibernates in wetlands or seasonally wet areas with structures such as overhanging banks, hummocks, tree roots, or aquatic animal burrows (1).	No		No further consideration required
Wood Turtle	*Glyptemys insculpta*	THR	END	S2	The Wood Turtle has orange coloured front legs, neck and chin and a sculpted carapace with raised, pyramidal scutes (5). They prefer clear rivers and streams that have moderate current, and sandy or gravelly substrates. This species spends more time on land than other turtle species including in meadows, swamps and fields. Wooded areas are an essential habitat component, and the species uses aquatic habitats for hibernation and mating. Nesting occurs in areas with sandy soil and abundant light (1).	No		No further consideration required
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	THR	S3	The Eastern Hog-nosed Snake can be a variety of colours and patterns so is most easily identified by its flattened, upturned nose. They prefer sandy well-drained habitats such as beaches and dry forests because they lay their eggs, hibernate and burrow in these areas. The main diet of this snake is toads and frogs, so they usually stay close to water including marshes and swamps, where they have an increased chance of finding their preferred prey (1).	No		No further consideration required
Eastern Milksnake	*Lampropeltis triangulum*	SC	NAR	S4	The Eastern Milksnake's colouration is grey or tan with reddish alternating blotches otlines in black along its back and sides (5). It has recently been delisted from being a species at risk in Ontario (1). This species tends to use open habitats such as rocky outcrops, fields and forest edges. The preferred prey of milksnakes are mice, small rodents, and ground nesting birds which are amply found in and surrounding agricultural outbuildings. The milksnake is secretive and is not likely to be encountered during the day or at night while hunting (5).	No		No further consideration required
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	S4	The Eastern Ribbonsnake is slender with three bright yellow stripes running down its back and sides and a white crescent in front of each eye. This snake is usually found close to water as they are strong swimmers, often fleeing predators by diving into shallow water. It prefers wetland habitats where its prey species, frogs and small fish, are abundant. Over winter, they congregate in underground burrows or rock crevices to hibernate (1).	No		No further consideration required
Common Five-lined Skink (Southern Shield Population)	*Plestiodon fasciatus*	SC	SC	S3	The Common Five-lined Skink is Ontario's only lizard species. Its Southern Shield population can be found underneath rocks on open bedrock in forests and like to bask on sunny rocks and logs. They hibernate in crevices among rocks or buried in the soil (1). They hibernate in groups under rocks and tree stumps or in rotting wood (5).	No		No further consideration required
Western Chorus Frog	*Pseudacris triseriata*	THR	-	S3	The Western Chorus Frog is small with a dark stripe running through its eye and a light stripe underneath (5). It is primarily a lowland terrestrial species that requires access to terrestrial and aquatic habitats in close proximity to one another. Relying on marshes and wooded wetlands adjacent to forested habitats, this species also requires isolated, predator free pools for breeding. Temporary pools, such as vernal pools in wooded areas, are preferred. This species hibernates terrestrially in a variety of environments, including leaf litter, wood debris, and vacant animal burrows (2).	Yes: on-site	Confirmed habitat on-site through targeted surveys	No further consideration required
Invertebrates								
Monarch Butterfly	*Danaus plexippus*	SC	SC	S2N,S4B	The Monarch is an orange and black butterfly with small white spots and a wingspan of around 10 cm. It relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers (1).	No		No further consideration required

Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	S3S5	The Yellow-banded Bumble Bee is medium-sized, with a yellow and black abdominal band pattern. This species is considered a habitat generalist since it is able to use a variety of necatring plants and can tolerate a range of environmental conditions, including habitats such as mixed woodlands, grasslands, farmlands, and urban areas. Their nest sites are often found underground in abandoned burrows or decomposing logs.	No		No further consideration required
Mammals								
Tri-colored Bat	*Perimyotis subflavus*	END	END	S3?	The Tri-colored Bat is small, with pale brown with orange-red forearms, muzzle, and ears. It is named for the black, yellow, and brown hairs on its back. It is considered rare in this region of Ontario which is at the northernmost limit of the natural range. These bats prefer to nest in foliage, tree cavities and woodpecker holes, but are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bats prefer an open forest habitat type in proximity to water (6).	No		No further consideration required
Eastern Small-footed Myotis	*Myotis leibii*	No Status	END	S2S3	The Eastern Small-footed Myotis has fur with black roots and shiny brown tips as well as very small feet. In the spring and summer, the Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects. They hibernate in winter, often in caves and abandoned mines choosing colder and drier sites than other similar bats (1).	Yes: on-site	Known to occur in the general area	Confirmed habitat for endangered or threatened species on-site
Little Brown Myotis	*Myotis lucifugus*	END	END	S4	The Little Brown Myotis has glossy brown fur and a fleshy projection covering the entrance to its ears. This species roosts in trees and buildings, often selecting attics, abandoned buildings and barns for summer colonies where they can raise their young. Little Brown Bats hibernate from October/November to March/April, most often in caves or abandoned mines that are humid and remain above freezing (1).	Yes: on-site	Known to occur in the general area	Confirmed habitat for endangered or threatened species on-site
Northern Myotis	*Myotis septentrionalis*	END	END	S3	The Northern Myotis has dull yellow-brown fur with pale bellies and long, rounded ears. This species is found in boreal forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October/November to March/April, most often in caves or abandoned mines (1).	Yes: on-site	Known to occur in the general area	Confirmed habitat for endangered or threatened species on-site
Algonquin Wolf	*Canis lycaon*	SC	THR	S4	Formerly called the Eastern Wolf, this canine was recently renamed the Algonquin Wolf. In the southern portion of the province, this species prefers deciduous and mixed forest landscapes while their northern range include mixed and coniferous forests. It is most prevalent in areas with abundant prey species which include Beaver, White-tailed Deer and Moose. Dens sites are usually found in coniferous forests with easily excavated soil types like sand and close to a permanent water source (1).	Yes: on-site	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Trees, plants, fungi and lichens								
American Ginseng	*Panax quinquefolius*	END	END	S2	American Ginseng is a perennial plant which grows up to 60 centimetres in height. The leaves typically have five leaflets arranged in a whorl at the end of the leaf stem. The root looks like a gnarly parsnip. The flowers are an inconspicuous green-white in colour, but the berries are bright red and arranged in a cluster. In Ontario, the American Ginseng typically grows in rich, moist, and mature deciduous woods dominated by Sugar Maple, White Ash, and American Basswood. It typically grows in deep, nutrient rich soil over limestone or marble bedrock (1).	No		No further consideration required
Black Ash	*Fraxinus nigra*	No status	END	S4	The Black Ash is a smaller-sized tree with a narrow crown, light grey and scaly bark, and green, oval leaflets on a central stalk. It grows everywhere in Ontario except for the far north, preferring moist climates and soils such as swampy woodlands or bogs (1).	Yes: on-site	Confirmed habitat on-site through targeted surveys	No further consideration required
Butternut	*Juglans cinerea*	END	END	S2?	The Butternut is a medium sized tree reaching 30 m in height. It has large compound leaves with 11 to 17 leaflets. The fruit is oval, fuzzy and sticky. In Ontario, the Butternut prefers moist, well-drained soil, often along streams, or occasionally well-drained gravel sites. It grows alone or in small groups in deciduous forests (1).	Yes: on-site	Known to occur in the general area	No further consideration required
Pale-bellied Frost Lichen	*Physconia subpallida*	END	END	S3	The Pale-bellied Frost Lichen resembles a light dusting of frost on a dark tree trunk. This species is found throughout eastern North America, growing in wooded areas rich in hardwood species, such as White Ash, Hop Hornbeam (Ironwood), Black Walnut, and American Elm. It is also common to find this species growing on fenceposts or boulders within or near these wooded areas. In Ontario, this species has been found in the following counties: Frontenac, Haliburton, Hastings, Peterborough, Lanark and Renfrew (1).	No		No further consideration required

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Appendix I

Significant Wildlife Habitat Assessment

APPENDIX: Significant Wildlife Habitat Screening - 5E

			SITE		
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confrmed /Absent SWH: Area to be Defined & Relevant Notes**
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Meadow, Thicket, or Agricultural Field WITH spring flooding/sheet water (Mar-May) AND size potential to support 100+ individuals AND potential established/recurring annual use	American Black Duck, American Wigeon, Blue-winged Teal, Gadwall, Green-winged Teal, Mallard, Northern Pintail, Northern Shoveler, Wood Duck Defining Criteria: 100+ individuals SWH: ecosite + 100-300m radius; dependent on local site conditions and adjacent land use	No	N/A	N/A
Waterfowl Stopover and Staging Area (Aquatic)	Marsh, Swamp, Shallow Aquatic, Open Aquatic, reservoires managed as wetland/ lake/ pond, and agricultural fields AND size potential to support 100+ indiv. for 7+ days *Rare: typically only a few locations per EcoDistrict *EXCLUDES SWM and sewage treatment ponds*	American Black Duck, American Wigeon, Black Scoter, Blue-winged Teal, Brant, Bufflehead, Cackling Goose, Canada Goose, Canvasback, Common Goldeneye, Common Merganser, Gadwall, Greater Scaup, Green-winged Teal, Hooded Merganser, Lesser Scaup, Long-tailed Duck, Northern Pintail, Northern Shoveler, Red-breasted Merganser, Redhead, Ring-necked duck, Ruddy Duck, Snow Goose, Surf Scoter, White-winged Scoter Defining Criteria: 100+ individuals for 7+ days (>700 waterfowl use days) OR annual staging of Ruddy Ducks, Canvasbacks and Redheads OR wetlands and shorelines associated with sites identified in SWHTG Appendix K SWH: ecosite + 100m radius	No	N/A	N/A
Shorebird Migratory Stopover Area	Beach/Bar, Sand Dune, Meadow Marsh, Shorelines of lakes, rivers and wetlands, including armour rock shorelines of Great Lakes WITH size potential to support 100+ Whimbrel OR 3+ species for 1000+ shorebird use days *EXCLUDES SWM and sewage treatment ponds*	American Golden Plover, Baird's Sandpiper, Black-bellied Plover, Dunlin, Greater Yellowlegs, Hudsonian Godwit, Least Sandpiper, Lesser Yellowlegs, Marbled Godwit, Pectoral Sandpiper, Purple Sandpiper, Red-necked Phalarope, Ruddy Turnstone, Sanderling, Semipalmated Plover, Semipalmated Sandpiper, Short-billed Dowitcher, Solitary Sandpiper, Spotted Sandpiper, Stilt Sandpiper, Whimbrel, White-rumped Sandpiper Defining Criteria to Confirm: 3+ species and 1000+ shorebird use days (#birds x #days) OR 100+ Whimbrel for at least 3 yrs (makes brief stops of <24 hrs during migration) SWH: ecosite + 100m radius	No	N/A	N/A
Raptor Wintering Area	COMBINATION of Forest, Meadow, Thicket, Savannah, Woodland or lightly grazed pasture of combined 20+ha area WITH 15+ha of the area consisting of open habitat; Fields should be wind swept with limited snow accumulation / depth	Hawks: Rough-legged Hawk Owls: Boreal Owl, Long-eared Owl, Northern Saw-whet Owl, Short-eared Owl Defining Criteria: 1+ Short-eared Owls OR 10+ individuals of 2+ listed species AND used regularly (at least 20 days during each year for at least 3 in 5 years) SWH: not specified in Criteria Schedules	No	N/A	N/A
Bat Hibernacula	Caves, Crevices, Karsts, Abandoned Mines *Calcareous bedrock is fairly rare in 5E *EXCLUDES buildings and active mines*	Big Brown Bat, Tri-coloured Bat Defining Criteria: all sites with confirmed hibernacula are SWH SWH: entrance + 1000m radius for wind farms OR + 200m radius for other projects	No	N/A	N/A
Bat Maternity Colonies	Mature (dominant trees >80yrs old) Deciduous or Mixed Forests and Treed Swamps *EXCLUDES Coniferous Forests and Treed Swamps and buildings*	Big Brown Bat, Silver-haired Bat Defining Criteria: 10+/ha cavity trees WITH 25+ cm dbh AND >10 Big Brown Bats OR >5 adult female Silverhaired Bats (trees in lesser decay categories (1-3) preferred) SWH: entire woodland, Ecosite, or Ecoelement containing the maternity colonies	Yes	Bat Maternity Roost Surveys did not meet cavity tree density required per defining criteria.	Absent

CAMBIUM

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Turtle Wintering Area (Painted and Snapping Turtles)	Swamp, Marsh, Shallow Aquatic, Open Aquatic, Open Fen, Open Bog WITH soft mud substrates AND enough depth to maintain free water beneath ice AND adequate dissolved oxygen *EXCLUDES man-made ponds such as SWM and sewage treatment ponds*	Midland Painted Turtle, Snapping Turtle Defining Criteria: 5+ Painted Turtles OR 1+ Snapping Turtle SWH: ecosite	Yes	None	Candidate SWH: Community 4 may provide suitable habitat.
Turtle Wintering Area (Northern Map Turtle)	Open Aquatic, including deeper rivers or streams and lakes WITH current AND soft mud substrates AND enough depth to maintain free water beneath ice AND adequate dissolved oxygen *EXCLUDES man-made ponds such as SWM and sewage treatment ponds*	Northern Map Turtle Defining Criteria: 1+ Northern Map Turtle SWH: ecosite OR the pool where overwintering occurs in a stream/river	No	N/A	N/A
Reptile Hibernaculum (Snakes)	Talus, Rock Barren, Crevice, Cave, Alvar or certain Wetlands (conifer/shrub swamps/swales, poor fens, depressions in bedrock terrain with sparse trees/shrubs and sphagnum or sedge hummocks), broken/fissured bedrock, rock piles or slopes, old stone fences, or abandoned crumbling foundations WITH openings below frost line	Eastern Gartersnake, Eastern Ribbonsnake, Milksnake, Northern Brownsnake, Northern Red-bellied Snake, Northern Ring-necked, Northern Watersnake, Smooth Green Snake Defining Criteria: 5+ individuals of a species OR any number of snakes of 2+ species OR presence of a Special Concern species AND observed near a potential hibernacula on warmy sunny days in spring and fall SWH: feature containing hibernacula + 30 m radius	No	N/A	N/A
Reptile Hibernaculum (Five-lined Skink)	Mixed Forests, Deciduous Forest, or Coniferous Forest dominated by Pine/Hemlock WITH cover rocks overlaying fissured granite bedrock	Five-lined Skink Defining Criteria: All sites with active Skink hibernacula SWH: feature containing hibernacula +30 m radius	No	N/A	N/A
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Eroding banks, sandy hills/piles, pits, steep slopes, cliff faces WITH size potential to support 8+ nests *EXCLUDES all man-made structures (bridge abutments, silos, barns, etc.) AND recently (2 years) disturbed soil (berms, embankments, stock piles, aggregate operations)*	Cliff Swallow, Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies) Defining Criteria: 1+ nesting site with 8+ pairs SWH: peripheral nests + 50m radius	No	N/A	N/A
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Mixed Swamp (excluding those dominated by Cedar) or Treed Fen, lake shorelines/ islands/ peninsulas WITH size to support 5+ nests; Nests are typically 11-15 m above ground near top of live or dead standing trees / occassionally in shrubs and emergents	Black-crowned Night Heron, Great Blue Heron Defining Criteria: 10+ active nests of Great Blue Heron OR 1+ active nest of Black-crowned Night Heron SWH: edge of the colony + 300+m radius OR extent of the forest ecosite OR any island <15ha	No	N/A	N/A

APPENDIX: Significant Wildlife Habitat Screening - 5E

			SITE		
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confrmed /Absent SWH: Area to be Defined & Relevant Notes**
Colonially-nesting Bird Breeding Habitat (Ground; Terns and Gulls)	Rocky island or peninsula (natural or artificial) in lake or large river WITH Meadow Marsh, Shallow Marsh, Shallow Aquatic, or Open Aquatic	Caspian Tern, Common Tern, Great Black-backed Gull, Herring Gull, Little Gull, Ring-billed Gull Defining Criteria: 25+ active Herring Gull or Ring-billed Gull nests OR 5+ active Common Tern nests OR 2+ active Caspian Tern nests OR 1+ active Little Gull or Great Black-backed Gull nest SWH: edge of the colony + 150+m radius OR the ecosites containing the colony OR any island <3ha	No	N/A	N/A
Colonially-nesting Bird Breeding Habitat (Ground; Brewer's Blackbird)	Close proximity to watercourses in pastures, Meadows, Thickets, Savannah, Meadow Marsh, Shallow Marsh AND scattered trees or shrubs	Brewer's Blackbird Defining Criteria: 5+ pairs SWH: edge of the colony + 150+m radius OR the ecosites containing the colony OR any island <3ha	No	N/A	N/A
Deer Yarding Areas	**Stratum I** (Core): Coniferous Forest or Swamp WITH 60+% canopy cover by Pine, Hemlock, Cedar, or Spruce **Stratum II** (typically surrounds Stratum I): Mixed or Deciduous Forest or Swamp WITH plenty of browse (esp. those dominated by Poplar or Birch); can include agricultural fields *EXCLUDES woodlots with high densities of deer due to artificial feeding*	White-tailed Deer **Presence is determined by MNRF** *If present, consider Movement Corridors*	Yes	White-tailed Deer	Site and adjacent lands in all directions are mapped by MNRF as Stratum I
Rare Vegetation Communities					
Beach/Beach Ridge/ Bar/Sand Dunes	Beach/Bar, Sand Dune, Shoreline WITH <60% tree cover; characterized by unstable sand	Indicator Species: American Beachgrass, Beach Pea Defining Criteria: 1+ indicator sp SWH: ecosite	No	N/A	N/A
Shallow Atlantic Coastal Marsh	Meadow Marsh, Shallow Marsh, Floating-leaved Shallow Aquatic on inland lakes AND associated with low wave action, sand and sandy peat substrates in areas with seasonally fluctuating water levels (i.e., some years with exposed shorelines in summer/fall) such as inland lakes and beaver ponds	Indicator Species: Virginia Meadow Beauty Other Associated Species: Bayonet Rush, Bog Yellow-eyed-grass, Carey's Smartweed, Sand Panicgrass, Small-headed Beakrush, Virginia St. John's-wort Defining Criteria: Virginia Meadow Beauty AND 4+ other associated sp SWH: ecosite	No	N/A	N/A
Cliffs and Talus Slopes	Cliff (near vertical bedrock 3+m tall) OR Talus slope (coarse rock rubble at base of cliff) WITH <60% tree cover (patchy to barren)	Rock Tripe Lichen (Umbilicaria spp.), Alpine Woodsia, Fragile Fern, Fragrant Cliff Fern, Laurentian Woodsia, Rock Polypody, Rusty Woodsia, Steller's Rockbrake, White Mountain Saxifrage Defining Criteria: Any population of Fragrant Cliff Fern or Laurentian Woods OR Umbilicaria spp AND 3+ other listed sp SWH: ecosite	No	N/A	N/A

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Rock Barren (Precambrian Rock)	Rock Barren WITH size of 1+ha AND relatively undisturbed AND tree cover <60%	Reindeer lichens (Cladina spp.), Haircap mosses (Polytrichum spp.), Poverty Oatgrass, Wavy Hairgrass, Common Juniper, Early Lowbush Blueberry, Sweet-fern, White Oak, Red Oak, Eastern White Pine, Bracken Fern, Bristly Sarsaparilla, Case's Ladies'-tresses, Early Saxifrage, Black Huckleberry, Pale Corydalis, Pin Cherry, Bastard Toadflax Defining Criteria: >4 listed sp AND a relatively undisturbed site SWH: ecosite	No	N/A	N/A
Sand Barren	Sand Barren AND <60% tree cover; usually located within forest or savannah, caused by lack of moisture, periodic fires and erosion	Reindeer Lichens (Cladina spp.), Houghton's Sedge, Fernald's Sedge, Labrador Violet, Northern Dewberry, Northern Jointweed, Plains Porcupine Grass, Rock Spikemoss, Sweet-fern Defining Criteria: 1+ listed sp AND <50% cover by exotic/invasive species SWH: ecosite	No	N/A	N/A
Alvar	Alvar, Coniferous Forest dominated by Pine or Cedar, Bedrock Cultural Meadow, Juniper Bedrock Alvar Cultural Thicket, Bedrock Cultural Savannah (CUS2), Bedrock Cultural Woodland (CUW2) WITH size 0.5+ha AND <60% tree cover; typically level mosaic of rock pavements and bedrock overlain by thin veneer of soil *Extremely Rare in 5E	Indicator Species: Balsam Groundsel, Fragrant Sumac, Hairy Beardtongue, Philadelphia Panicgrass, Small Skullcap, Wild Bergamot Defining Criteria: 1+ indicator sp AND <50% cover by exotic/invasive species AND fits surrounding landscape with few conflicting land uses SWH: ecosite	No	N/A	N/A
Old Growth Forest	Forest, Treed Swamp WITH size of 30+ha WITH 10+ha interior habitat (measured 100 m from forest edge)	No listed species Defining Criteria: 140+ year old trees of dominant tree species AND no cut stumps or other signs of logging SWH: ecosites OR ecoelement containing old growth characteristics	No	N/A	N/A
Bog	Bog of any size	Sphagnum moss, ericaceous shrubs, sedges Defining Criteria: no additional criteria SWH: ecosite	No	N/A	N/A
Tallgrass Prairie	Tallgrass Prairie of any size WITH <25 tree cover; may be natural or restored; primarily along shorelines in 5E *EXCLUDES remnant sites such as railway right of ways*	Indicator Species: Big Bluestem, Prairie Cordgrass Characteristic Species: Black-eyed Susan, Hairy Beardtongue, Kalm's Brome, Large-pod Pinweed, Narrow-leaved New Jersey Tea, Ovate-leaved Violet, Racemed Milkwort, Wild Bergamot, Yellow Indiangrass Defining Criteria: 1+ indicator sp AND 2+ characteristic species AND <50% cover by exotic/invasive species SWH: ecosite	No	N/A	N/A
Savannah	Tallgrass Savannah, Talgrass Woodland, Cultural Savannah of any size WITH tree cover 25-60%; may be natural or restored	Indicator Species (SHWTG Appendix N - use 6E): Dwarf Hackberry, Early-branching Panicgrass, Illinois Tick-trefoil, Redtop Panicgrass, Side-oats Gramma, Small-leaved Tick-trefoil, White Prairie Gentian Defining Criteria: 1+ of the listed species AND <50% cover by exotic/invasive species SWH: ecosite	No	N/A	N/A

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Rare Forest Type - Red Spruce Forest	Coniferous Forest and Coniferous Swamps/Bottomlands of any size WITH Red Spruce, often on shallow till soils, organic soils over rock, or steeper slopes	Red Spruce (similar to and hybridizes with Black Spruce) Defining Criteria: >10% cover by Red Spruce SWH: ecosite	No	N/A	N/A
Rare Forest Type - White Oak Forest	Deciduous or Mixed Forest of any size WITH White Oak	White Oak Defining Criteria: >10% cover by White Oak SWH: ecosite	No	N/A	N/A
Specialized Habitat for Wildlife					
Waterfowl Nesting Area	Upland habitats 120+m wide AND adjacent shallow aquatic, shallow marsh, meadow marsh, thicket swamp, or deciduous treed swamp (i.e., all wetlands excluding coniferous and mixed treed swamps). Wetlands must be >0.5 ha or a cluster of three or more <0.5 ha wetlands within 120 m of each other where waterfowl nesting is known to occur *Wood Ducks Bufflehead, Common Goldeneye, and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites	American Black Duck, American Widgeon, Blue-winged Teal, Bufflehead, Canada Goose, Common Goldeneye, Common Merganser, Gadwall, Green-winged Teal, Hooded Merganser, Mallard, Northern Pintail, Northern Shoveler, Red-breasted Merganser, Wood Duck Defining Criteria: 1+ nesting site of American Black Duck OR 10+ nesting pairs (including Mallards) OR 3+ nesting pairs (excluding Mallards) SWH: 120 m radius (+/- as determined by site-specific study) of upland habitat adjacent to a wetland	No	N/A	N/A
Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat	Forest, Swamp AND directly adjacent to shoreline/riparian areas of rivers, lakes, ponds, wetlands *EXCLUDES nests on man-made objects (e.g., telephone poles, constructed platforms)*	Osprey, Bald Eagle Defining Criteria: 1+ active nest AND known to be used annually; to be excluded nests must be known to be inactive for 3+yrs or suspected to be inactive for 5+yrs SWH: Osprey: active nest +300m radius OR contiguous woodland; Bald Eagle: active nest +400-800m radius	No	N/A	N/A
Woodland Raptor Nesting Habitat	Forest, Treed Swamp, Coniferous Plantations WITH size 30+ha AND 4+ha of interior habitat (measured 200m from the forest edge)	Broad-winged Hawk, Cooper's Hawk, Merlin, Northern Goshawk, Red-shouldered Hawk, Red-tailed Hawk, Sharp-shinned Hawk, Barred Owl, Great-horned Owl Defining Criteria: 1+ active nest SWH: Red-shouldered Hawk, Northern Goshawk: active nest +400m radius OR 28ha suitable habitat; Barred Owl: active nest +200m radius; Broad-winged Hawk, Coopers Hawk, Great-horned Owl, Red-tailed Hawk: active nest +100m radius; Merlin, Sharp-shinned Hawk: active nest +50m radius	No	N/A	N/A
Turtle Nesting Areas	Open sand and gravel WITH adjacent Bog, Fen, Meadow Marsh, Floating Marsh, or undisturbed shallow weedy areas of marshes, lakes, and rivers *EXCLUDES habitat along municipal or provincial roads*	Midland Painted Turtle, Snapping Turtle, Northern Map Turtle Defining Criteria: 5+ nesting Midland Painted OR 1+ nesting Northern Map or Snapping Turtle SWH: nesting area + 30-100m radius, depending on slope, riparian vegetation, adjacent land use, and consideration of travel routes to/from nest sites	No	N/A	N/A

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Lizard Nesting Areas	Deciduous and Mixed Forest; skink nests in logs, in stumps or under loose rock in partially wooded areas	Five-lined Skink Defining Criteria: 1+ nesting skink SWH: active nest +30m radius	No	N/A	N/A
Seeps and Springs	Forest in headwaters area of a stream/river system; important wildlife feeding/drinking areas, especially in the winter	Wild Turkey, Ruffed Grouse, Spruce Grouse, Moose, White-tailed Deer, Salamander spp. Defining Criteria: 2+ seeps/springs SWH: ecosite/ecoelement; may include ajdacent habitats pending consideration of: slope, vegetation, height of trees and groundwater condition	No	N/A	N/A
Aquatic Feeding Habitat	Wetlands or isolated embayments that provide an abundance of submerged aquatic vegetation (Pondweeds, Water Milfoil, and Yellow Water Lily preferred) WITH adjacent Conifer/Mixed Forest	Moose, White-tailed Deer *Mapped by MNRF on Crown Land Defining Criteria: observed or demonstrated (tracks, scat) moose use SWH: wetland +120m adjacent mixed or conifer forest, particularly those that provide thermal cover and/or travel corridors to other habitat features If present, consider travel corridor SWH	No	N/A	N/A
Mineral Licks	Forest WITH upwelling groundwater	Moose, White-tailed Deer Survey: Observational survey in early spring prior to leaf out Defining Criteria: confirmed habitat SWH: wetland ecosite, seep or spring +100-200m radius of contiguous forest habitat, depending on level of disturbance	No	N/A	N/A
Denning Sites for Mink, Otter, Marten, Fisher and Eastern Wolf	All species: Forest ecosites Mink: Shorelines dominated by Coniferous or Mixed forest; occasionally old muskrat lodges for denning Otters: Undisturbed Shorelines with productive fish populations, abundant shrubby vegetation and downed woody debris; often use beaver lodges, log jams or rock piles for denning Marten and Fisher: Large tracts of Coniferous or Mixed Forest of mature or older age classes; often use cavities in large trees or under large downed woody debris	Mink, Otter, Marten, Fisher, Grey Wolf, Eastern Wolf Defining Criteria: confirmed active den SWH: known Wolf den +200m radius OR known den of any other listed species +100m radius	No	N/A	N/A

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			SITE		
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confrmed /Absent SWH: Area to be Defined & Relevant Notes**
Amphibian Breeding Habitat (Woodland)	Wetland, pond or breeding pool, including vernal pools WITH size of 500+m^2 (~25m diameter) AND located in or within 120m of Forest or Treed Swamp *Permanent ponds or those containing water until at least mid-July are preferred	Blue-spotted Salamander, Eastern Newt, Spotted Salamander, Four-toed Salamander, Northern Two-lined Salamander, Spring Peeper, Wood Frog, American toad Defining Criteria: 1+ breeding salamander sp OR 2+ breeding frog sp WITH 20+ individuals (adults or eggs masses) / Call Level Code 3 SWH: breeding pond/wetland +230m radius of woodland habitat *If present adjacent to woodland, travel corridor SWH is to be included*	Yes	Amphibian Call Surveys did not record breeding activty that meets the defining criteria	Absent
Amphibian Breeding Habitat (Wetlands)	Swamp, Fen, Bog, Meadow Marsh, Shallow Marsh, Shallow Aquatic, Open Aquatic WITH size of 500+m^2 (~25 m diameter) AND typically >120 m from Forest except in the case of larger habitats containing predominantly aquatic species (e.g., Bullfrog) which may have riparian Forest *Shrubs and logs increase significance for some species because of structure for calling, foraging, escape, and concealment from	Blue-spotted Salamander, Eastern Newt, Four-toed Salamander, Spotted Salamander, American Toad, Bullfrog, Gray Treefrog, Green Frog, Mink Frog, Northern Leopard Frog, Pickerel Frog, Western Chorus Frog Defining Criteria: 1+ breeding salamander sp OR 3+ breeding frog/toad sp WITH 20+ individuals (adults or eggs masses) / Call Level Code 3 OR any number of breeding Bullfrogs SWH: wetland ecosite + adjacent shoreline *If present, travel corridor SWH is to be considered*	Yes	Amphibian Call Surveys did not record breeding activty that meets the defining criteria	Absent
Mast Producing Areas	Deciduous and Mixed Forests >0.5ha WITH >50% cover by mast producing tree species of >40-65cm dbh OR opening within Forest with >50% cover by mast producing shrub species Temporary clearings such as burns or clear-cuts are less significant	Tree Species: Beech, Red Oak, Basswood, Black Cherry, Butternut, Hickory, Ironwood, Mountain Ash, Pin Cherry Sprub Species: Beaked Hazel, Blackberry, Blueberry, Choke Cherry, Hawthorn, Raspberry, Serviceberry Associated wildlife: Black Bear, Ruffed Grouse, White-tailed Deer, Wild Turkey Defining Criteria: Forest with >50% cover by mature (>40-65cm dbh) mast producing tree species OR opening within Forest with >50% cover by mast producing shrub species SWH: ecosite or ecoelement with suitable habitat	No	N/A	N/A
Habitat of Species of Conservation Concern					
Marsh Bird Breeding Habitat	Wetland WITH shallow water AND emergent vegetation *Green Heron prefers edge of water (sluggish streams, ponds, marshes sheltered by shrubs and trees), but can also be found in upland shrubs or forest a considerable distance from water	American Bittern, American Coot, Black Tern, Common Loon, Common Moorhen, Green Heron, Lesser Scaup, Sora, Marsh Wren, Pie-billed Grebe, Redhead, Red-necked Grebe, Ring-necked Duck, Ruddy Duck, Sandhill Crane, Sedge Wren, Trumpeter Swan, Wilson's Phalarope, Yellow Rail Defining Criteria: 1+ breeding Black Tern, Trumpeter Swan, Green Heron, Yellow Rail or Sandhill Crane OR 5+ nesting pairs of Sedge Wren or Marsh Wren OR breeding by 5+ other listed species SWH: ecosite	No	N/A	N/A

APPENDIX: Significant Wildlife Habitat Screening - 5E

			SITE		
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confrmed /Absent SWH: Area to be Defined & Relevant Notes**
Open Country Bird Breeding Habitat	Natural and Cultural Meadows WITH size 30+ha AND history of longevity; present for at least 5 years *EXCLUDES Class 1 or 2 agricultural lands AND lands being actively used for row crops, intensive hay or pasture in the last 5 years*	Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl, Upland Sandpiper, Vesper Sparrow Defining Criteria: nesting/breeding of 2+ listed species OR 1+ breeding Short-eared Owl SWH: contiguous ecosite field habitats	No	N/A	N/A
Shrub/Early Successional Bird Breeding Habitat	Field habitats succeeding to Cultural Woodland, Cultural Savannah or Cultural Thicket WITH size of 30+ha AND history of longevity; abandoned fields or lightly grazed pastures *EXCLUDES Class 1 or 2 agricultural lands AND lands being actively used for row crops, hay or intensive pasture in the last 5 years*	Black-billed Cuckoo, Blue-winged Warbler, Brown Thrasher, Clay-coloured Sparrow, Eastern Towhee, Field Sparrow, Golden-winged Warbler, Prairie Warbler, Tennessee Warbler, Willow Flycatcher Defining Criteria: nesting/breeding of 2+ listed species OR 1+ breeding Golden-winged Warbler SWH: contiguous ecosite field/thicket habitats	No	N/A	N/A
Special Concern and Rare Wildlife Species	Any - varies by species; habitat needs to cover an important life stage component (e.g., nesting, foraging, or wintering habitat)	Species that are ranked S1-S3 by the NHIC and/or are provincially tracked Species with populations that are significantly declining or have a high percentage of their global population in Ontario Species listed as special concern under the ESA Species listed as threatened or endangered under SARA only Regionally or locally rare species, where lists are available Defining Criteria: no additional criteria SWH: finest scale that protects the habitat form and function	Yes	Wood Thrush observed but no probable or confirmed breeding evidence was documented.	Candidate SWH: See Species of Conservation Concern Screening
Animal Movement Corridors					
Amphibian Movement Corridors	Any habitat associated with water; shorter corridors are more significant than longer corridors *potential determined based on identification of Amphibian Breeding SWH	Blue-spotted Salamander, Eastern Newt, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog Defining Criteria: allowing amphibians to travel between summer and breeding habitat; several layers of native vegetation; ideally unbroken by roads, waterways, waterbodies, and development; gaps <20 m SWH: 15+m on both sides of a waterway/ecosite OR up to 200m wide in woodland habitats with gaps <20 m	No	N/A	N/A
Cervid Movement Corridors	Any forested habitat; shorter corridors are more significant than longer corridors; typically follow riparian areas, woodlots, areas of physical geography (ravines or ridges) *potential determined based on identification of Deer Wintering SWH, Moose Aquatic Feeding Area SWH or Mineral Lick SWH	White-tailed Deer, Moose Defining Criteria: allowing cervids to move to and from yard, mineral lick or aquatic feeding area; should be unbroken by roads and residential areas SWH: 15+m on both sides of a waterway/ecosite OR up to 200m wide with gaps <20m	No	N/A	N/A
Furbearer Movement Corridor	Any Forest habitat within/adjacent to shoreline *potential determined based on identification of Denning Site SWH for *Mink or Otter*	Mink, Otter Defining Criteria: no additional criteria SWH: not identified in Criteria Schedules	No	N/A	N/A