SCOPED ENVIRONMENTAL IMPACT STUDY

1184 Parish Line Road
Municipality of Dysart et al.
February 2025

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

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February 18, 2025
RS# 2024-282

SUBJECT: Scoped Environmental Impact Study, 1184 Parish Line Road, Municipality of Dysart et al., County of Haliburton

Dear Jeremy,

RiverStone Environmental Solutions Inc. is pleased to provide you with the attached report.

Please contact us if there are any questions regarding the report, or if further information is required.

Best regards,

RiverStone Environmental Solutions Inc.

Bev Wicks, Ph. D.
Principal / Senior Ecologist

ENVIRONMENTAL ASSESSMENT NON-TECHNICAL SUMMARY

Type of Study Scoped Environmental Impact Study (EIS)		**Date** February 18, 2025
Project Manager Bev Wicks	**Legal Description** Part Lot 19, Concession 5, Geographic Township of Dysart, Municipality of Dysart et al., County of Haliburton	**Development Proposed** Consent application to sever property and create one (1) severed lot and one (1) retained lot
	Planning Authorities Municipality of Dysart et al. County of Haliburton	**Owner/Agent** Jeremy Hutchings

Report Summary

This Scoped Environmental Impact Study has been prepared to assess natural heritage features and identify any constraints associated with a property with frontage on Parish Line Road, in the Municipality of Dysart et al. The client is required to submit a scoped EIS as part of a development application to sever the parcel to create one (1) severed lot and one (1) retained lot. During the onsite review of existing conditions, it was determined that the subject property contained:

1) Wetlands, and
2) Potential habitat of endangered and threatened species.

Potential impacts of the proposed application on the identified natural features and species of conservation interest were evaluated. The recommendations contained in **Section 0** of this report (reiterated below) are intended to mitigate potential negative impacts on the identified features and species. Provided that mitigation measures are implemented appropriately, it is our opinion that the proposal can be accomplished without negative impacts to functions of key natural heritage features.

RECOMMENDATIONS

Wetlands

- **Development must be set back a minimum of 30 m from identified wetland features (Figure 3).**
- **Existing vegetation within the 30 m wetland setback must be left in a natural state to maintain a vegetated buffer adjacent to the wetlands and maintain their function.**
- **To ensure that water quality is not negatively impacted by runoff during construction, RiverStone recommends the following measures related to sediment and erosion control/ site containment be included in the environmental plans:**
  - **Install and inspect sediment and erosion control fencing around the development envelope.**
  - **Fencing be positioned along the downgradient edge of any construction envelopes. Fencing should be located outside of the buffers.**

- **Sediment fencing must be constructed of heavy material and solid posts and be properly installed (trenched in) to maintain its integrity during inclement weather events.**
- **Additional sediment fencing and appropriate control measures must be available on site so that any breach can be immediately repaired.**
- **Regular inspection and monitoring will be necessary to ensure that the structural integrity and continued functioning of the sediment control measures is maintained (i.e., proper installation is not the only action necessary to satisfy the mitigation requirements).**
- **Removal of non-biodegradable erosion and sediment control materials should occur once construction is complete, and the site is stabilized.**
- **Machinery should arrive on site in clean condition and be checked and maintained free of fluid leaks.**
- **Machinery must be refueled, washed, and serviced within the area isolated by sediment fencing.**
- **Locate all fuel and other potentially deleterious substances within the area isolated by sediment fencing, a minimum of 30 m from wetlands.**
- **Storage locations of materials should be located within the area isolated by sediment fencing. This material is to be contained by heavy-duty sediment fencing, a minimum of 30 m from the wetlands.**
- **All stockpiled mill waster materials should be piled in low piles and stabilized as quickly as possible (e.g., erosion-prone areas covered with textile) to minimize the potential for runoff and wind erosion.**

- **Best Management practices should be utilized with all machinery and fill being imported to the subject property to ensure that material and tracks are free from invasive species (*Phragmites australis*, etc.).**

- **Class IV sewage treatment facilities, employing the use of a raised filter bed or a tertiary treatment system with area bed, may be required.**

- **The final location and installation of any septic system be completed by a licenced installer, respecting the conditions described above.**

<u>Endangered and Threatened Species</u>

Eastern Hog-nosed Snake (*Heterodon platirhinos*)

- **Where present, rotting logs, brush piles, rock piles, or compost piles be left in place.**

- **Development areas must be isolated by sediment and erosion control fencing prior to active season for EHNS (i.e., occur between November 1 and April 15) and the commencement of activities. Fencing is to be a minimum of 1 m in height and is to be trenched in to minimize the potential for Eastern Hog-nosed Snakes to burrow under the barrier.**

- **Should an Eastern Hog-nosed Snake be encountered during development, MECP should be contacted immediately to obtain direction on how to proceed.**

Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tricolored Bat (*Perimyotis subflavus*)

- **Any tree removals required to accommodate potential future development take place outside of the season in which endangered bats may be active, i.e., April 1 – Sept 30.**

- **If tree clearing must occur within the above-noted timing window, additional studies may need to be completed to confirm the presence or absence of SAR bats. These studies can include snag tree surveys and acoustic monitoring of the area where trees will be removed, by a qualified professional. If SAR bats may be impacted by the development proposal, the MECP should be contacted to determine if a permit would be required to proceed.**

- **Any lighting incorporated into the final building designs should be directed downwards and away from the open areas.**

<u>Additional Natural Features and Functions</u>

- **Vegetation removal and disturbance outside of the development envelopes should be minimized.**

- **Site alteration (i.e., felling of trees, clearing, grading, etc.) should not occur on the subject property from April 1 to October 15, as this time corresponds to the peak nesting/breeding period for most avian species at risk, and the roosting period for species at risk bats.**

- **Best Management practices should be utilized with all machinery and fill being imported to the study area to ensure that material and tracks are free from invasive species (*Phragmites australis*, etc.).**
- **Machinery should arrive on site in clean condition and is to be checked and maintained free of fluid leaks.**
- **Locate all fuel and other potentially deleterious substances a minimum of 30 m from the wetlands, and drainage features. Minimize fuels and chemicals stored onsite and ensure a spills management plan and the associated spill response equipment is always available on-site for implementation in the event of a spill of deleterious material.**
- **Temporary storage locations of aggregate/fill material should be located no less than 30 m from the wetlands. This material must be contained by heavy-duty sediment fencing.**
- **Removal of non-biodegradable erosion and sediment control materials once construction is complete and the site is stabilized.**

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1 BACKGROUND

RiverStone Environmental Solutions Inc. (hereafter "RiverStone") was retained by Jeremy Hutchings to complete a Scoped Environmental Impact Study (EIS) for a property located at 1184 Parish Line Road in the Municipality of Dysart et al (hereafter "Municipality"). The subject property is legally described as Part Lot 19, Concession 5, Geographic Township of Dysart, Municipality of Dysart et al. This report is based on the information provided by the client to our office through email, our knowledge of the EIS requirements for the Municipality, and a site assessment completed on the property.

It is our understanding the studies requested are required as part of a submission for a consent application for the purpose of severing a 2.83 ha lot to create one (1) new lot and one larger (1) retained lot with frontage on Parish Line Road. According to the interactive zoning mapping for the Municipality of Dysart et al., the property is zoned Rural Type 1 (RU1) and Environmental Protection (EP). Natural Heritage Areas mapping available through the Ministry of Natural Resources (MNRF) indicates that the subject property and adjacent lands contain unevaluated wetland and potential for several species at risk. Given the planning and regulatory context and the presence of natural heritage features on and adjacent to the subject property, it is our understanding that a scoped EIS is required to accompany the application. Based on client pre-consultation discussion with Kris Orsan, Manager of Planning for the Municipality of Dysart et al., an EIS scoped to wetlands is required to accompany the severance application. For reference, **Appendix 1** provides the various schedules/maps displaying identified designations/layers within the Municipality of Dysart et al and the County of Haliburton.

The purpose of this scoped EIS is to delineate and characterize the current extent of natural heritage features and ecological functions on the subject property. We consider the data collected and assess the potential for proposed development to result in a negative impact to any such significant features and functions. Based on the results of this assessment, we identify recommendations and/or requirements for avoidance, mitigation, offsetting, and/or additional authorizations as relevant to meet the intent of applicable planning policies and environmental legislation. RiverStone submits this report in fulfillment of the requirements under the Municipality's Official Plan (Office Consolidation April 2024).

2 APPROACH AND METHODS

The general approach used to complete this scoped EIS involved the following:

1. Identify a study area in which to focus assessment efforts.

2. Assemble and review background biophysical information for the subject property and adjacent lands, to become familiar with any identified significant natural heritage features (SNHF) and records of species at risk (SAR) prior to the site investigation.

3. Conduct a site investigation to field-verify the presence or absence of SNHFs, confirm the biophysical features and functions identified during background information gathering, and to collect additional field data (e.g., habitat information, etc.) that will assist with completing the report.

4. Determine the potential for negative impacts associated with implementation of the proposed development and provide recommendations on how identified negative impacts can be mitigated via avoidance, minimization, and/or compensation measures (as necessary).

5. Provide an assessment of consistency and conformity of the proposed development plan with applicable municipal, provincial, and federal environmental policies.

2.1 Identification of Study Area

The focus of this assessment is the portion of the subject property on which development is proposed (see Study Area on **Figure 1** and **Figure 2**). Informally, the study area also incorporates a minimum 120 m radius around the limits of the proposed development, a measure that is intended to ensure appropriate consideration for natural heritage features and functions on adjacent lands, consistent with direction in the Natural Heritage Reference Manual (NHRM) under the Provincial Planning Statement (PPS). The study area may also include consideration for adjacent privately-owned lands; however, assessment of such areas is informal and limited to a desktop or roadside review.

2.2 Information Sources Used to Assess Site Conditions

Information pertaining to the biophysical features and functions of the subject property and surrounding lands was obtained from the following sources:

- **Municipality of Dysart et al Official Plan** (Office Consolidation 2024) for natural features mapping including:
    - Schedule A, Map 2 – Dysart Township
    - Schedule B – Natural Heritage Features and Areas
- **Municipality of Dysart et al Comprehensive Zoning By-law 2005-120** (Office Consolidation April 4, 2024) for applicable zoning and environmental protection areas mapping, including:
    - Schedule A, Map 2 – Dysart Township
- **County of Haliburton Official Plan** (April 2017)
- **Ministry of the Environment, Conservation and Parks (MECP) information request** for occurrences of species at risk in and adjacent to the subject property. Received January 16, 2025.
- **MNRF Natural Areas Mapping** from the Natural Heritage Information Centre (NHIC) regarding information on occurrences of species of conservation interest on or adjacent to the subject property, as well as significant natural areas (squares 17PK9888, 17PK9788, 17PL9789) accessed on January 13, 2025, at https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA
- **Ontario Breeding Bird Atlas (OBBA) Online Database** and Atlas of the Breeding Birds of Ontario, 2001–2005 (Cadman et al. 2007) regarding birds that were documented to be breeding in the vicinity of the subject lands during the 2001–2005 period (atlas square number: 17TPK98) https://www.birdscanada.org/naturecounts/onatlas/squaresummaryform.jsp?squareID=17TPK98.
- **Ontario Reptile and Amphibian Atlas** database regarding records of reptiles and amphibians that have been observed within the vicinity of the subject property (square: 17PK98; accessed January 13, 2025, at https://www.ontarioinsects.org/herp/).
- **Ontario Butterfly Atlas** database regarding butterflies recorded in the vicinity of the site (square: 17PK98; accessed January 13, 2025, at: https://www.ontarioinsects.org/atlas/).

- **iNaturalist Mapping and Online Database** regarding citizen scientist observations documented in the vicinity of the subject lands accessed January 13, 2025, at: https://inaturalist.ca/projects/nhic-rare-species-of-ontario
- **Species at Risk in Ontario List** as provided by Ministry of the Environment, Conservation and Parks: https://www.ontario.ca/page/species-risk-ontario (last accessed January 13, 2025)
- **Atlas of the Mammals of Ontario** (Dobbyn 1994) regarding mammals recorded near the subject property.
- **eBird Online Database** regarding citizen science observations documented in the vicinity of the subject property accessed January 13, 2025, at https://ebird.org/hotspots
- **Great Lakes Conservation Blueprint for Aquatic Biodiversity, Volume 2** (Phair et al. 2005) regarding aquatic biodiversity within tertiary watershed 2EC (Black River – Lake Simcoe).
- **Digital Ontario Base Maps** (OBMs; 1:10,000) to ascertain topography.
- **Colour aerial photography** of the property (digital orthophotos: leaf-off, Spring).
- RiverStone's **in-house databases and reference collections**.
- On-site investigations by RiverStone staff (see **Section 2.3**)

2.3 Site Assessment Methods

The sections below outline the various methods used to characterize and assess natural heritage features and associated functions within the subject property.

2.3.1 Habitat-based Wildlife Assessment

RiverStone's primary approach to site assessment is habitat-based. We first focus on evaluating the potential for natural heritage features and species within an area of interest, prior to undertaking any targeted assessments or surveys. An area is considered potential habitat if it satisfies several criteria, usually specific to a species, but occasionally characteristic of a broader group (*e.g.*, several species of turtles use sandy shorelines for nesting, several species of bats use cavity trees as day roosts and maternity sites, etc.). If habitat features are demonstrably absent from a study area, then targeted surveys would not be considered warranted to further support conclusions of the assessment.

Physical attributes of a site that can be used to assess habitat function include structural characteristics (*e.g.*, age and composition of forest canopy, water depth), ecological community (*e.g.*, meadow marsh, rock barren, coldwater stream), and structural connectivity to other habitat features required by a species of interest or indicator species. Species-specific habitat preferences and/or affinities are determined from status reports produced by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Cadman et al. (2007), unpublished documents, and direct experience.

Evidence for the presence of a species (or use of an area by a species) was determined from visual and/or auditory documentation (e.g., song, call) and/or observation of nests, tracks, burrows, browse, skins, and scats (where applicable). Significant natural heritage features (e.g., wildlife habitat, fish habitat, etc.) were delineated in the field with a high accuracy GPS. Features of interest were photographed, and all information collected was catalogued for future reference. Overall, the level of effort expended on-site was deemed appropriate to document natural features and functions with

recognized status given the location and scale of the proposed development plan. Representative photographs taken during the site investigation are provided in **Appendix 2.**

2.3.2 Targeted Wildlife Assessment

Where appropriate, RiverStone explores further species-specific assessments in accordance with applicable standard methods and protocols. Targeted survey efforts may be undertaken due to one or more triggers, such as a specific request from an approval authority, an existing record for a species of interest, or a limitation to the habitat-based assessment (*e.g.*, limited property access). Given the timing of study initiation and schedule for application submission, targeted survey methodologies were not undertaken for any specific group of wildlife for this property. All potential habitat functions are estimated based on review of background information and expert and conservative interpretation of on-site habitat structure, as discussed above.

2.3.3 Physical Assessment (Topography, Surficial Geology, & Drainage)

The geophysical setting of this property was determined using topographic, soils, and geological mapping, aerial photography, and descriptions gathered through on-site investigations. Drainage features were identified through the review of background mapping resources and/or delineated in the field.

2.3.4 Vegetation Community Assessment

All natural vegetation communities within the Subject Property were mapped according to the Great Lakes-St. Lawrence (GLSL) Ecosite Fact Sheets (Wester *et al*. 2015), otherwise known as the "Provincial" ELC system. The GLSL Ecosite factsheets represent refinements and a synthesis of several different protocols for describing vegetation communities (primarily forests) within Ecoregions 4 and 5 previously prepared by MNRF in the 1990's. ELC defines ecological units or "Ecosites" based on a hierarchy of influence involving several physical factors including climate (temperature, precipitation), flooding, disturbance regimes, and substrate (depth, texture, moisture, nutrients). ELC provides a common language to describe vegetation communities, which in turn facilitates the identification of vegetation communities likely to support features or functions of conservation interest.

Each Ecosite code consists of three (3) components. The first component is a 1-digit geographic range code; all Ecosites within the GLSL geographic range begin with the letter "G". The second component is a 3-digit Ecosite number that corresponds to a specific vegetation community. The third component is a 1- or 2-digit vegetation cover modifier indicating whether the dominant vegetation is tall-treed (Tt), low-treed (Tl), shrub (S), not woody (N), or not vegetated (X). For example, "G153N" refers to a rock barren community that is dominated by non-woody vegetation occurring within the Great-Lakes St. Lawrence geographic range.

In our experience, the ELC classification key is not comprehensive, and improvised classifications are occasionally used to describe communities, particularly for cultural, successional, or otherwise anthropogenic land cover. Vegetation communities were delineated via aerial photo interpretation and subsequently confirmed and refined in the field using a general wandering survey approach. The boundaries of any identified wetland boundaries were delineated in accordance with the "50% wetland vegetation rule" as directed by the Ontario Wetland Evaluation System (OWES), where feasible.

2.3.5 On-Site Investigations

The background information gathered as outlined in **Section 2.1** helped direct data collection during site investigations. The sites features were assessed on October 23, 2024, by B. Howe (Ecologist). Investigations were focused on collecting information pertaining to: (1) topography and drainage, (2) wetlands and vegetation communities, and (3) habitat for endangered and threatened species. Representative site photos taken during this investigation are assembled in **Appendix 2**. Overall, the level of effort expended on-site was deemed appropriate to document the features and functions with recognized status given the location and scale of the proposed development.

2.4 Significant Natural Heritage Feature Assessment

Provincial and local planning policies employ varying terms for natural heritage features and designations that have recognized 'statuses' within the applicable planning jurisdiction. Where relevant, this report employs the terminology of the Provincial Planning Statement (PPS) by referring to features with recognized status as Significant Natural Heritage Features (SNHF). Additionally, natural heritage features which do not constitute SNHF under the PPS but are considered relevant in the local land use planning context are considered in this discussion. A list of SNHF (applicable to Ecoregion 5E and/or the Municipality of Dysart et al) that were reviewed as potentially being present on the subject property include the following:

- Fish Habitat & Streams
- Wetlands (including significant wetlands and coastal wetlands)
- Habitat of Endangered and Threatened Species

The listed applicable features are assessed in accordance with applicable technical guidance documents, including the following:

- *Municipality of Dysart et al Official Plan (Office Consolidation April 2024)*
- *Natural Heritage Reference Manual (NHRM) for the Natural Heritage Policies of the Provincial Policy Statement* (MNRF 2010)

In addition to the above references, the potential presence/absence of relevant species of conservation interest, such as endangered and threatened species, are assessed using a combination of the background information review outlined in **Section 2.2** and the habitat-based and targeted approach outlined in **Section 2.3.1**.

2.4.1 Fish Habitat and Streams

Potential fish habitat was also assessed in the field using a habitat-based approach, based on guidance protocols and established criteria provided by both the MNRF and DFO. Where identified, watercourses were reviewed for features that would provide habitat for fish and for barriers that would prevent fish movement. Where determined to be present, fish habitat is assigned to one of three potential categories, Type 1, Type 2, or Type 3 as outlined in **Table 1** below. Fish habitat mapping, fisheries records, thermal regime, and the known fish community of a lake or watercourse are used in conjunction with site-specific field evaluation, to determine which 'type' of habitat is present in any portion of a waterbody, which can include open water wetlands.

Table 1. Classification of Fish Habitat Types

Classification Type	Description
Type 1	Habitats have high productive capacity, are rare, in space and/or time, are highly sensitive to development, or have a critical role in sustaining fisheries (*e.g.*, spawning and nursery areas for some species, and ground water discharge areas for summer and/or winter thermal refuges).
Type 2	Habitats are moderately sensitive to development and, although important to the fish population, are not considered critical (*e.g.*, feeding areas and open water habitats of lakes).
Type 3	Habitats have low productive capacity or are highly degraded, and do not currently contribute directly to fish productivity. They often have the potential to be improved significantly (*e.g.*, a portion of a waterbody, a channelized stream that has been highly altered physically).

Any watercourses that were encountered were assessed. Key characteristics assessed include the physical dimensions of the channel, thermal regime, groundwater sources, and adjacent vegetation. The most comprehensive and widely applied habitat assessment protocol for wadeable creeks, streams, and rivers was developed by MNRF. The Ontario Stream Assessment Protocol (Stanfield 2010) provides standard assessment techniques to identify key components of fish habitat at discrete locations. The entire protocol can be used to establish baseline conditions to address comprehensive academic questions, whereas individual components of the protocol can be used to provide site-specific information. Useful site-specific information to collect includes channel structure, instream cover, substrate type, stability, type and density of riparian vegetation, and location of groundwater upwellings. Following the methods described in The Stream Permanency Handbook (Bergmann et al. 2005), the flow characteristics (stream permanency) of any watercourses encountered were also assessed. To determine stream permanency, observations of flow duration, instream vegetation, established channel, water temperature, and the presence of aquatic invertebrates were evaluated.

These details allow the watercourse to be characterised and considered on the basis of requirements in the municipal Official Plans. These requirements generally relate to the buffer width and vegetation retention requirements. Wetlands can also be considered habitat for fish where there is suitable open water.

2.4.2 Endangered and Threatened Species

For the purposes of identifying species that warrant consideration during design and implementation of the proposed development plan, endangered and threatened species include those designated as "endangered" or "threatened" under O. Reg. 230/08 pursuant to the provincial *Endangered Species Act, 2007*. The ESA includes prohibitions against killing, harming, harassing, capturing, or taking a living member of a species listed as extirpated, endangered, or threatened on the Species at Risk in Ontario (SARO) list and against damaging or destroying the habitat of a species listed as endangered or threatened on the SARO list, without an exemption or authorization. Seeking an ESA authorization or exemption is a proponent-led process to ensure proposed development does not contravene the ESA. These species are considered within the local Official Plan and Provincial Planning Statement as SAR.

RiverStone's approach to site assessment is primarily habitat-based. The assessment included a thorough review of the available information, site visits, and assessment of findings. The results of these assessments are provided below in **Section 4.4** and in **Appendix 3**.

2.5 Impact Assessment and Mitigation Planning

To carry out a rigorous and defensible ecological assessment of potential impacts associated with the proposed development, RiverStone employs the following approach.

1. *Predict* impacts to features and species of conservation interest on the subject property and adjacent lands based on the proposed development plan (from construction to post-completion), including both direct (*e.g.,* vegetation clearance) and indirect (*e.g*., light pollution, encroachment post-development) impacts.
2. *Evaluate the significance* of predicted impacts to features and species of conservation interest based on their spatial extent, magnitude, timing, frequency, and duration.
3. *Assess the probability or likelihood* that the predicted impacts will occur at the level of significance expected (*e.g.,* high, medium, low probability).

In instances where the potential for negative impacts to features or species of conservation interest exist, ecologically meaningful mitigation measures are offered to avoid, minimize, and/or compensate for such impacts. RiverStone's impact assessment and recommended mitigation measures are provided in **Section 5.**

2.6 Assessment of Conformance with Applicable Environmental Policies

The suite of relevant municipal and environmental policies that apply to the subject property and proposed development are listed below. Based on the results of the background information gathering, site investigation, impact assessment, and recommendations, RiverStone has advised the extent to which the proposed development conforms to all applicable environmental policies in **Section 6**.

- Federal *Fisheries Act*, R.S.C. 1985, c. F-14, amended on 2019-08-28 including:
    - *Applications for Authorization under Paragraph 35(2)(b) of the Fisheries Act Regulations*, S.O.R/2013-191
    - Fish and Fish Habitat Protection Policy Statement (August 2019)
- Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22, including:
    - Migratory Birds Regulations.
- *Provincial Planning Statement*, 2024, pursuant to the *Planning Act*, R.S.O. 1990, c. P.13, including:
    - Significant Wildlife Habitat Technical Guide (OMNR 2000)
    - Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (OMNR 2010)
- Provincial *Endangered Species Act* (ESA)*,* S.O. 2007, c. 6, including:
    - Ontario Regulation 230/08: Species at Risk in Ontario List
    - Ontario Regulation 242/08: "Exemption Regulation"
- County of Haliburton Official Plan (April 2017)
- Municipality of Dysart et al *Official Plan* (Office Consolidation 2024)
- Municipality of Dysart et al *Comprehensive Zoning By-law 2005-120* (Office Consolidation April 4, 2024)

3 NATURAL HERITAGE FEATURES AND FUNCTIONS

3.1 General Site Conditions

The subject property is approximately 38.8 ha (95.9 acres) and is accessed via Parish Line Road. The study area includes the northern portion of the subject property with a focus on the proposed severed portion in the northeastern corner of the lot. At the time of RiverStone's assessments, the property was vacant; however, use of the property as pasture lands was evident throughout. The subject property contains a mix of vegetation communities with areas of naturally maintained upland forest and forested wetland habitat. No watercourses were observed; and no open water features were noted that would provide habitat for fish. The property contains generally rolling topography throughout with wetland communities located within the topographical low points. Vegetation communities consist of both upland and wetland forest communities and are identified on **Figure 2**. Representative photographs taken during the site investigation are provided in **Appendix 2**.

3.2 Topography, Physiology, and Drainage

The subject property is situated near the southwestern boundary of Ecodistrict 5E-11 (Bancroft). The bedrock throughout the property and adjacent lands generally belongs to the Central Metasedimentary Belt of the Grenville Province in the Canadian Shield Physiographic Region, comprised of carbonate rocks formed during the middle to late Precambrian Era (i.e., rocks consisting chiefly of marble, calc-silicate rocks, skarn, and tectonic breccia). These rocks are generally exposed at the surface or covered by a discontinuous, thin layer of drift (Barnett et al. 1991). The bedrock throughout this region has extensive outcroppings, which are primarily the result of glaciation and post-glacial events. Prominent bedrock knobs and ridges are common in the region and dominate features in some areas. The Precambrian landform expression strongly influences the topographic patterns of the region as well as the local overland drainage characteristics.

The subject property contains generally rolling topography with high points noted along Parish Line Road and again within the central portion of the property. No areas of moderate or steep slopes were recorded. Wetland communities have been documented within the topographical low points on the property. Overland drainage from the property is directed toward the wetland communities observed within the study area. The proposed severed lot contains a level area appropriate for structure and septic development (slopes < 15%). Five-meter interval contour mapping for the subject property confirmed field observations.

3.2.1 Surface Water

No watercourses or open water communities were noted within the assessment area.

3.3 Vegetation Communities

In general, the subject property contains a mix of upland mixedwood forest and wetland habitat. Ecological communities were characterized and delineated through a combination of aerial photo analysis and field investigations; these communities are described below and mapped on **Figure 2**. Each description includes a list of representative plant species within each community. All species observed within the study area are considered common locally and provincially.

3.3.1 Terrestrial Vegetation Communities

G046S Dry to Fresh, Coarse: Sparse Shrub

Across the frontage of the subject property adjacent to Parish Line Road is a vegetation community that is dominated by shrub and groundcover species with minimal trees present. This portion of the property contains higher elevations; topography changes moving south on the lot toward a coniferous wetland community. Evidence of cattle grazing was present throughout this community. Species noted include juvenile trees such as White Ash (*Fraxinus americana*), Sugar Maple (*Acer saccharum*), Scots Pine (*Pinus sylvestris*), Norway Spruce (*Picea abies*), Eastern White Cedar (*Thuja occidentalis*), Black Cherry (*Prunus serotina*), White Birch (*Betula pendula*), Trembling Aspen (*Populus tremuloides*), White Spruce (*Picea glauca*), and Apple Species (*Malus sp*). Shrub and groundcover included Ground Juniper (*Juniperus communis var. depressa*), Aster Species (*Symphyotrichum sp*), Canada Goldenrod (*Solidago canadensis*), Virginia Strawberry (*Fragaria virginiana*), Orange Hawkweed (*Hieracium aurantiacum*), Meadow Buttercup (*Ranunculus acris*), Field Horsetail (*Equisetum arvense*), Red Raspberry (*Rubus idaeus*), Common Mullein (*Verbascum thapsus*), Common Buckthorn (*Rhamnus cathartica*), Wild Basil (*Clinopodium vulgare*), Silver Cinquefoil (*Potentilla argentea*), Northern Bracken Fern (*Pteridium aquilinum var. latiusculum*), Rough Bedstraw (*Galium asprellum*), Common St. Johnswort (*Hypericum perforatum*), Mouse-ear Hawkweed (*Hieracium pilosella*), Common Selfheal (*Prunella vulgaris*), Common Blue Wood Aster (*Symphyotrichum cordifolium*), Philadelphia Fleabane (*Erigeron philadelphicus*), Wild Carrot (*Daucus carota*), Yellow-seed False Pimpernel (*Lindernia dubia*), Tall Hairy Agrimony (*Agrimonia gryposepala*), White Meadowsweet (*Spiraea alba*), Common Echium (*Echium vulgare*), Red Clover (*Trifolium pratense*), Reindeer Lichen (*Cladonia rangiferina*), Orchard Grass (*Dactylis glomerata*), Bird's-foot Trefoil (*Lotus corniculatus*), Large-leaf Wood Aster (*Eurybia macrophylla*), and Staghorn Sumac (*Rhus hirta*). This community is also present within the central portion of the subject property.

G059Tt Dry to Fresh, Coarse: Mixedwood

This community is dominant throughout the subject property and includes mid-aged to mature tree species with a mixture of coniferous and deciduous species. Canopy cover in this community includes Sugar Maple, Eastern Hemlock (*Tsuga canadensis*), Eastern White Pine (*Pinus strobus*), American Basswood (*Tilia americana*), Balsam Fir (*Abies balsamea*), and Eastern White Cedar. Understory species include Northern Bracken Fern, Northern Flat-topped White Aster (*Doellingeria umbellata var. pubens*), Striped Maple (*Acer pensylvanicum*), Beaked Hazelnut (*Corylus cornuta*), Canada Mayflower (*Maianthemum canadense*), Wild Sarsaparilla (*Aralia nudicaulis*), and Spinulose Wood Fern (*Dryopteris carthusiana*).

G058Tt Dry to Fresh, Coarse: Maple Hardwood

This community is located within the central portion of the property along the western property boundary and is dominated by mid-aged to mature Sugar Maple. It is possible this community has been historically maintained as a sugar bush. Understory species are minimal; however, additional species noted include Ironwood (*Ostrya virginiana*), Balsam Fir, Eastern White Pine, and White Spruce.

3.3.2 Wetland Vegetation Communities

G130Tt Intolerant Hardwood Swamp

South of the maple hardwood dominated community are two wetland communities that almost expand almost across the width of the subject property. These communities are dominated by hardwood tree species including Black Ash (*Fraxinus nigra*), Green Ash (*Fraxinus pennsylvanica*), Red Maple (*Acer rubrum*), and Yellow Birch (*Betula alleghaniensis var. fallax*). Additional species noted include Eastern White Cedar, Balsam Fir, Spinulose Wood Fern, Dwarf Raspberry (*Rubus pubescens*), Three-

leaf Goldthread (*Coptis trifolia*), Bishop's Cap Species (*Mitella sp*), Wood-sorrel Species (*Oxalis sp*), Robin's Runaway (*Dalibarda repens*), Fragrant Bedstraw (*Galium triflorum*), Crested Wood Fern (*Dryopteris cristata*), Prickly Gooseberry (*Ribes cynosbati*), Bunchberry (*Cornus canadensis*), Fringed Sedge (*Carex crinita*), Woolly Sedge (*Carex pellita*), Sensitive Fern (*Onoclea sensibilis*), Greater Duckweed (*Spirodela polyrrhiza*), and American Golden Saxifrage (*Chrysosplenium americanum*).

G129Tt Organic Rich Conifer Swamp

Towards the front of the subject property, is a large conifer swamp wetland community dominated by Eastern White Cedar. This community also includes Red Maple, Yellow Birch, Balsam Fir, Green Ash, Wild Raisin (*Viburnum nudum var. cassinoides*), Dwarf Raspberry, Three-leaf Goldthread, Robin's Runaway, Spinulose Wood Fern, Fragrant Bedstraw, Wood-sorrel Species, Crested Wood Fern (*Dryopteris cristata*), Interrupted Fern (*Osmunda claytoniana*), Poverty Oat Grass (*Danthonia spicata*), Common Selfheal, and Broadleaf Helleborine (*Epipactis helleborine*).

3.4 Wildlife Habitat Overview

Based on our assessment, the subject property has the potential to support habitat for various species of wildlife that are typical to the Canadian Shield landscape. It is reasonably assumed that wildlife in the local area would include those generally found on the local landscapes. We would expect occurrences for general mammalian species, including White-tailed Deer (*Odocoileus virginianus*), Coyote (*Canis latrans*), Eastern Cottontail (*Silvilagus floridanus*), Raccoon (*Procyon lotor lotor*), Grey Squirrel (*Sciurus carolinensis*), etc. Wetland-dependent fauna, such as amphibians would be expected to occur in association with wetland communities identified on the property. We expect that a wide variety of breeding birds (resident and migratory) would make use of the study area, including wetlands and woodlands. Targeted surveys were not conducted in the assessment area. This report makes conservative estimations on the potential presence of species that may be indicative of significant functions.

The NHIC database includes local element occurrences for at-risk species on the surrounding landscape. An assessment of potential wildlife species and/or habitat features, including individuals of species at risk or other species of conservation concern, is provided in **Section 4** of this report within the context of SNHFs. RiverStone assessed the potential for the subject property and adjoining lands to contain habitat for endangered and threatened species (**Appendix 3**).

4 NATURAL HERITAGE/HYDROLOGIC FEATURE ASSESSMENT

Based on the biophysical information collected during background information gathering, and the summarized existing conditions of the subject property as described above, **Table 2** below identifies all SNHFs that are present (or potentially present) within the study area. RiverStone's rationale for identifying such features is provided in the sections that follow.

Table 2. Summary of the Assessment of Significant Natural Heritage Features included in the scope of work and identified within the Study Area.

Significant Natural Heritage Feature	Presence/Absence within the Subject Property/Adjacent Lands
Fish Habitat & Streams	*Absent*. See **Section 4.1**
Wetlands	*Present*. See **Section 4.2**

Significant Natural Heritage Feature	Presence/Absence within the Subject Property/Adjacent Lands
Areas of Natural and Scientific Interest	*Absent*. See **Section 4.3**
Habitat of Endangered and Threatened Species	*Present*. See **Section 4.4**

Shaded rows denote significant natural heritage features that are present or have the potential to be present within the study area.

4.1 Fish Habitat & Streams

As noted in **Section 3.2.1**, no watercourses or habitat for fish were present within the assessment area.

4.2 Wetlands

No provincially significant wetlands (PSW) are present within the study area; however, there are unevaluated wetland features within the assessment area. Based on available background mapping and onsite assessment, the wetlands are best described as conifer and intolerant hardwood swamp. These features are connected to additional wetland habitat located on adjacent lands. Further discussion of these features is included in **Section 5.3**.

4.3 Areas of Natural and Scientific Interest (Life Science)

It is the responsibility of the Ministry of Natural Resources and Forestry (MNRF) to designate and administer mapping for areas of natural and scientific interest (ANSIs). Based on available background mapping, the nearest life science ANSI occurs over 23 km northwest of the subject property. There is no expectation that development on the subject lands would impact the closest ANSI features.

4.4 Habitat of Endangered and Threatened Species

To assess the potential presence of individuals and/or habitat for endangered and threatened species within the study area, RiverStone staff conducted the following:

- Review of the list of species designated as endangered and threatened in Ontario, as per Schedules 2 and 3 of Ontario Regulation 230/08 [(Species at Risk in Ontario List (SARO List)], located here: https://www.ontario.ca/laws/regulation/080230. In our experience, the potential presence of most provincially endangered and/or threatened species can be ruled out based on their limited geographical ranges in the province and/or a lack of specific habitat conditions which they require to carry out key life processes.
- Review of the NHIC database for existing records of element occurrences for endangered or threatened species (data squares 17PK9888, 17PK9788, 17PL9789 and adjacent squares). Databases of iNaturalist, OBBA, and ORAA were also reviewed as of January 2025.
- On-site investigation undertaken in 2024, during which vegetation conditions were characterized for detailed habitat-based assessment.

Information from the above assessment process was used to inform a site-specific screening, as contained in **Appendix 3**. Through this screening twenty (20) species were identified that have the potential to be present or use vegetation communities on the subject property or on adjacent lands based on existing records and range mapping. This list of species was reduced to six (6) species that had the potential to be present on the subject property based on habitat availability.

American Ginseng was not observed during the field investigation; however, suitable habitat conditions may be present within the deciduous forest community on the subject property beyond the study area. Black Ash habitat is present, and the species was observed during site investigations. Eastern Hog-nosed Snake (*Heterodon platirhinos*), Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*), may occur on the property in forested habitat. These species are discussed below. Where relevant, potential development-related impacts to these species are discussed further in **Section 5.4**.

4.4.1 American Ginseng (*Panax quinquefolius* – Endangered)

American Ginseng is a perennial herb that grows up to 60 cm tall. Individual plants take several years to reach reproductive maturity. This plant grows in rich, moist, but well-drained and relatively mature deciduous woods dominated by Sugar Maple, White Ash, and American Basswood. It prefers sites with low light conditions and moist, well drained conditions. Typically, hydrological features such as seeps, and intermittent streams are associated with these conditions. This species is shade-tolerant and has adapted to low light levels and depends on its surroundings to provide and maintain suitable growing conditions. Due to sensitivity to light, this species experiences depressed growth, early senescence, and leaf chlorosis if conditions change in a way that allow too much light to reach the plant. The main threat to American Ginseng in Ontario is small population sizes with low reproductive potential, harvesting for commercial purposes, and habitat loss associated with tree clearing and logging.

American Ginseng was not found within the study area on the subject property; however, based on the size/extent of the subject property and habitat conditions observed it is possible that suitable habitat is present. Site investigations were completed outside of the recommended window for vegetation inventories. Based on this knowledge and the understanding that disturbance to forest structure within 100 m of American Ginseng can cause impacts to growth, the site in its entirety must be considered sensitive and not just the individual plant. **Section 5.4** provides an assessment of impacts to American Ginseng habitat on the subject property.

4.4.2 Black Ash (*Fraxinus nigra* - Endangered)

Black Ash was added to the SARO List as of January 27, 2022, and species/habitat-level protections are provided under Regulation 242/08 of the ESA. Black Ash were observed in multiple locations in association with on-site wetland ecosites. The current protections afforded to Black Ash are specific to certain municipalities in Ontario; Haliburton is not currently included in this list. Notwithstanding, the Black Ash trees observed on the subject property are located within wetland features that should be protected. The wetland protection recommendations and mitigation measures would apply to Black Ash and would meet the requirements for regulated municipalities (30 m buffer around each stem). Further assessment in terms of impacts and impact mitigation is covered in **Section 5.4.1**.

4.4.3 Eastern Hog-nosed Snake (*Heterodon platirhinos*)

The Eastern Hog-nosed Snake specializes in hunting and eating toads and usually only occurs where toads can be found. They prefer sandy, well-drained habitats such as beaches and dry forests where they can lay their eggs and hibernate. Eastern Hog-nosed Snakes are a highly mobile species and somewhat generalist with respect to habitat preferences. They use large areas to carry out life processes such as foraging, thermoregulation, mating and dispersal. Because of their mobility, they have large activity ranges and long average daily movement distances. These habitat areas can include a mosaic of open natural areas such as woods, brushland, meadow, forest, forest edge, rock barrens, and sandy

areas. The most significant threats to Eastern Hog-nosed Snake are habitat loss, fragmentation, and road mortality (Kraus, 2011).

Eastern Hog-nosed Snakes were not documented on the subject property during our site assessment. However, based on the observations made by RiverStone, features on the subject property, including wetlands adjacent to upland habitat, are suitable to function as general habitat for Eastern Hog-nosed Snake.

Further discussion, including an assessment of potential impacts to this species resulting from implementation of the proposed development plan, is provided in **Section 5.4.2**.

4.4.4 Endangered Bat Species (*Myotis lucifugus, M. septentrionalis*)

These species, assessed as a species guild (related species with similar habitat characteristics), include several bat species listed as endangered in Ontario. Bats are highly mobile; however, individuals and groups of the noted bat species are also recognized as having some degree of fidelity to suitable local sites for daily and seasonal 'roosting' activities. While some species (*i.e.*, *Myotis lucifugus*) exhibit a preference for roosting in anthropogenic structures, natural roosting sites are also important. Natural roosting sites are generally associated with mature forests containing a sufficient density of large trees in various stages of decay, otherwise known as 'snags'. Snags provide features such as cavities and/or loose bark, on which bats rely for shelter and thermoregulation throughout the active season.

Woodland cover within the study area is fairly extensive and while no formal quantitative evaluation of bat habitat was conducted to support this assessment, we estimate that there is potential for on-site trees/woodland to support roosting habitat for endangered bat species.

Current direction from MECP prescribes that targeted surveys of treed habitats/snags are not necessary to quantify the quality/extent of potential habitat for endangered bat species IF a project would involve removal of only a small number of potential maternity or day roost trees in treed habitats (or none at all). This approach assumes that other appropriate mitigation measures (*i.e.*, timing windows) are employed to avoid impacts to individuals of endangered bat species. For our assessment, it is RiverStone's opinion that potential significant habitat features for bats could occur and it is not possible to rule out the potential for *individuals* of endangered bat species (or other bat species) to be present during the active season in any individual trees (*i.e.*, through migration and regular daily movements). Further discussion, including an assessment of potential impacts to individuals of endangered bat species resulting from implementation of the proposed development, is provided in **Section 5.4.3.**

5 IMPACT ASSESSMENT AND RECOMMENDATIONS

5.1 Proposed Development

The development plan considered is for the severance of the subject property to create one (1) severed lot with frontage on Parish Line Road. The proposed severed lot is approximately 2.7 ha (6.8 acres) in size. The severed lot is proposed for residential development that will include a dwelling, private well, septic system, and associated amenities (**Figure 3**). A septic system and well will be required, which should be sited outside of the areas identified as constraints.

5.2 Impact Assessment

RiverStone's impact assessment below is intended to inform a review of the proposal by the appropriate approval authority. Our assessment is based on a review of existing conditions at the time of site investigations, as illustrated on **Figure 2** and in the photographic record contained in **Appendix 2**. The primary purpose of this report is to assess impacts and support impact mitigation for all features that receive protections under applicable environmental planning policies and regulations that were to be included in this scope of work. The potential for negative impacts on identified NHF is discussed in the sections below, and several recommendations are listed to support a scenario of no net negative impacts. In assessing and identifying potential negative impacts through a development process, it is important to highlight how the PPS defines negative impacts, *i.e.*:

> "…*degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities*"

Importantly, as stated in Section 13.2 of the Natural Heritage Reference Manual (for Natural Heritage Policies of the PPS):

> *The PPS definition for "negative impacts" does not state that all impacts are negative, nor does it preclude the use of mitigation to prevent, modify or alleviate the impacts to the significant natural heritage feature or area*".

RiverStone's impact assessment is intended to be reflective of the above guidance, with consideration for the integrity and function of each feature, and in acknowledgement that not all development and site alteration represents a negative impact. RiverStone's property boundaries provided on figures are based on information provided by the proponent and should not be considered survey grade (*i.e*., for reference purpose only).

5.3 Wetlands

RiverStone identified thicket and hardwood swamp wetlands on the subject property during our site investigations. In general, development and/or site alteration activities that occur in proximity to wetlands have the potential to cause negative impacts via the following pathways:

- Alterations of surface water and/or groundwater contributions that may result from;
    - Construction staging (*e.g.,* dewatering, etc.);
    - Increased post-construction coverage of impervious surfaces (*e.g.,* roads, roofs, etc.); and,
    - Permanent modifications to existing topography or drainage.

- Increased contamination, sediment and/or nutrient loadings to features via runoff exiting the development area from ongoing use, and construction to post-completion of the project. This may adversely affect water quality via increased turbidity, nutrient enrichment, contamination by toxic substances, changes in pH, etc.;

- Direct loss of habitat through feature encroachment or other alterations; and

- Increased human activity/encroachment post construction, which may result in increased soil compaction, dumping, vandalism, or other disturbances.

To summarize, we do not expect that the proposed severance and rezoning to allow for residential development will result in a negative impact to the wetland features or its associated ecological and hydrologic functions. Any potential construction-related impacts to the wetlands can be avoided through construction mitigation practices and avoidance measures. The following recommendations are provided with respect to the on-site wetland features:

- **Development must be set back a minimum of 30 m from identified wetland features (Figure 3).**
- **Existing vegetation within the 30 m wetland setback must be left in a natural state to maintain a vegetated buffer adjacent to the wetlands and maintain their function.**
- **To ensure that water quality is not negatively impacted by runoff during construction, RiverStone recommends the following measures related to sediment and erosion control/ site containment be included in the environmental plans:**
  - **Install and inspect sediment and erosion control fencing around the development envelope.**
  - **Fencing be positioned along the downgradient edge of any construction envelopes. Fencing should be located outside of the buffers.**
  - **Sediment fencing must be constructed of heavy material and solid posts and be properly installed (trenched in) to maintain its integrity during inclement weather events.**
  - **Additional sediment fencing and appropriate control measures must be available on site so that any breach can be immediately repaired.**
  - **Regular inspection and monitoring will be necessary to ensure that the structural integrity and continued functioning of the sediment control measures is maintained (i.e., proper installation is not the only action necessary to satisfy the mitigation requirements).**
  - **Removal of non-biodegradable erosion and sediment control materials should occur once construction is complete, and the site is stabilized.**
  - **Machinery should arrive on site in clean condition and be checked and maintained free of fluid leaks.**
  - **Machinery must be refueled, washed, and serviced within the area isolated by sediment fencing.**
  - **Locate all fuel and other potentially deleterious substances within the area isolated by sediment fencing, a minimum of 30 m from wetlands.**
  - **Storage locations of materials should be located within the area isolated by sediment fencing. This material is to be contained by heavy-duty sediment fencing, a minimum of 30 m from the wetlands.**
  - **All stockpiled mill waster materials should be piled in low piles and stabilized as quickly as possible (e.g., erosion-prone areas covered with textile) to minimize the potential for runoff and wind erosion.**

- **Best Management practices should be utilized with all machinery and fill being imported to the subject property to ensure that material and tracks are free from invasive species (*Phragmites australis*, etc.).**

In regard to the potential impact of septic system effluent on water quality, the Ontario Building Code (the "OBC") requires a vertical separation of 0.9 m between the leaching bed and the high mark of the groundwater table, bedrock or soil with a percolation rate greater than 50 min/cm. When adequate depth cannot be achieved with native soils, the use of imported soils for the construction of a raised, fill-based system will likely be necessary to achieve the required vertical separation.

Given the shallow depth to bedrock over the subject property, soil conditions on the proposed severed lot may not be suitable for a conventional in-ground leaching bed. Filter bed systems or tertiary treatment systems with area beds are alternatives permitted under the OBC. Where there are limitations due to the depth or condition of native soils, RiverStone recommends the following:

- **Filter and area beds for the septic systems should be set back 30 m from the high-water mark as directed by the Municipality of Dysart et al. Official Plan. Septic systems should also be located outside of areas identified with 25% slope or greater.**

- **Class IV sewage treatment facilities, employing the use of a raised filter bed or a tertiary treatment system with area bed, may be required.**

- **The final location and installation of any septic system be completed by a licenced installer, respecting the conditions described above.**

5.4 Endangered and Threatened Species

As per Section 10 of the ESA, areas of identified habitat for any endangered or threatened species are protected from destruction, unless otherwise authorized. Additionally, Section 9 of the ESA protects individuals of endangered or threatened species, prohibiting individuals from being killed, harmed, or harassed without appropriate authorizations. In many (but not all) cases, mitigation planning is sufficient to ensure that development can occur in a manner that is consistent with the above provisions. The following section(s) provide an assessment of potential impacts to any endangered or threatened species considered relevant to the development application, as determined through our screening exercise (**Appendix 3**) and subsequent assessment in **Section 4.4**.

5.4.1 Black Ash (*Fraxinus nigra*)

Black Ash was identified within wetland habitats on the subject property. This species was listed as endangered on January 27, 2022, and protection was paused for two years (Government of Ontario, 2022) to allow the government to formulate a plan for its protection. Proponents did not need to seek authorization for activities impacting Black Ash or their habitat during that time (Government of Ontario, 2022).

As of January 27, 2024, a regulation was provided under the ESA to outline protection measures and parts of the province where the protection measures apply. Much of the area where the protection measures apply is in southern Ontario and does not include the Municipality of Dysart et al. As such, no restrictions are required for the protection of the species on the subject property. It should be noted that Black Ash were found within the wetland habitats on the property, which are protected and buffered.

5.4.2 Eastern Hog-nosed Snake (*Heterodon platirhinos*)

Based on a thorough habitat-based assessment and review of available background information, it is our opinion that the likelihood of these species occurring within the study area is low. Although, Eastern Hog-nosed Snake (EHNS) was not observed on the subject property during RiverStone's site investigation, we cannot conclusively state that these species do not occur within the study area. We can confirm that functional habitat features are limited within the study area, but there is potential for the property to provide general habitat. In consideration of these conclusions, it is our opinion that proposed development is unlikely to result in a contravention of the ESA with respect to EHNS. To prevent impacts on these species, RiverStone recommends:

- **Where present, rotting logs, brush piles, rock piles, or compost piles be left in place.**
- **Development areas must be isolated by sediment and erosion control fencing prior to active season for EHNS (i.e., occur between November 1 and April 15) and the commencement of activities. Fencing is to be a minimum of 1 m in height and is to be trenched in to minimize the potential for Eastern Hog-nosed Snakes to burrow under the barrier.**
- **Should an Eastern Hog-nosed Snake be encountered during development, MECP should be contacted immediately to obtain direction on how to proceed.**

5.4.3 Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tricolored Bat (*Perimyotis subflavus*)

All Myotis species in Ontario, and the Tricolored Bat, are designated endangered per O. Reg. 230/08 under the ESA. Little Brown Myotis, and Northern Myotis utilize dark, sheltered tree cavities within snag trees as roosting sites to shelter from inclement weather and gestate their young (Humphrey et al. 2019). Tricolored Bat utilize clumps of dead vegetation and peeling tree bark for the same purposes. Individuals (i.e., non-reproductive females and males) of bat species may roost in smaller diameter trees and other spaces (e.g., beneath house siding, etc.) that are not typically occupied by maternity colonies (Humphrey et al. 2019).

Mature forests on the subject property contain suitable and abundant habitat for these bat species. For such scenarios, common direction from MECP regarding impact avoidance for individuals of endangered bats includes strict adherence to vegetation removal timing windows. By limiting the timing window in which trees can be removed to outside of the active season for bats, development activities can avoid incidental harm to individuals of endangered bat species. Assuming implementation of appropriate tree removal timing windows, there is no expectation that the proposal will result in any negative impacts to individuals of endangered bat species. Recommendations are clarified as follows:

- **Any tree removals required to accommodate potential future development take place outside of the season in which endangered bats may be active, i.e., April 1 – Sept 30.**
- **If tree clearing must occur within the above-noted timing window, additional studies may need to be completed to confirm the presence or absence of SAR bats. These studies can include snag tree surveys and acoustic monitoring of the area where trees will be removed, by a qualified professional. If SAR bats may be impacted by the development**

proposal, the MECP should be contacted to determine if a permit would be required to proceed.

- **Any lighting incorporated into the final building designs should be directed downwards and away from the open areas.**

5.5 Additional Natural Features and Functions

With land use changes there is the potential for the felling of both deciduous and coniferous trees, and vegetation to be removed or substantially modified within a development footprint. The following measures are recommended to reduce the effects of development on the remaining forested land outside of any future proposed building envelopes:

- **Vegetation removal and disturbance outside of the development envelopes should be minimized.**
- **Site alteration (i.e., felling of trees, clearing, grading, etc.) should not occur on the subject property from April 1 to October 15, as this time corresponds to the peak nesting/breeding period for most avian species at risk, and the roosting period for species at risk bats.**
- **Best Management practices should be utilized with all machinery and fill being imported to the study area to ensure that material and tracks are free from invasive species (*Phragmites australis*, etc.).**
- **Machinery should arrive on site in clean condition and is to be checked and maintained free of fluid leaks.**
- **Locate all fuel and other potentially deleterious substances a minimum of 30 m from the wetlands, and drainage features. Minimize fuels and chemicals stored onsite and ensure a spills management plan and the associated spill response equipment is always available on-site for implementation in the event of a spill of deleterious material.**
- **Temporary storage locations of aggregate/fill material should be located no less than 30 m from the wetlands. This material must be contained by heavy-duty sediment fencing.**
- **Removal of non-biodegradable erosion and sediment control materials once construction is complete and the site is stabilized.**

6 CONFORMANCE WITH APPLICABLE ENVIRONMENTAL POLICIES

6.1 Federal Migratory Birds Convention Act, 1994 (MBCA)

Section 6 of the Migratory Birds Regulations under the *Migratory Birds Convention Act, 1994* makes it an offence to "disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird." The provincial *Fish and Wildlife Conservation Act, 1997* (FWCA) extends the protection of bird nests and eggs to species that are not listed under the Migratory Birds Regulations (e.g., Corvids).

Restricting clearing of vegetation for the proposed development to times outside of the period April 1 to August 31 will prevent contravention of Section 6 of the regulations. If vegetation removal is going to occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species

covered by this Act. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.

6.2 Provincial *Endangered Species Act, 2007* (ESA)

The ESA protects designated endangered and threatened species in Ontario from being killed, harmed, or harassed (s. 9) or having their habitat damaged or destroyed (s. 10). **Section 4.10** identified one or more species or its habitat having the potential to occur within or adjacent to the study area. **Section 4.4** provided a subsequent discussion of potential impacts to such species and/or associated habitat features, should those species be present within or adjacent to the study area. Based on this assessment, and assuming full implementation of mitigation measures (if/where recommended), it is RiverStone's opinion that no endangered or threatened species or their habitat are expected to be negatively impacted by implementation of the proposed development. On this basis, there is no expectation that the proposed development will result in a contravention of the ESA. It is noted that this assessment does not represent 'clearance' with respect to ESA compliance. It remains a proponent's continued and sole responsibility to ensure that a project does not result in a contravention to the ESA. **NOTE:** additional vegetation timing window considerations are required relating to impact mitigation for bats. To summarize, vegetation should not be cleared between April – Sept, inclusive, without further consultation with a qualified ecologist.

6.3 Provincial Planning Statement, 2024 (PPS)

The Provincial Planning Statement (PPS) is promulgated under the *Planning Act* and provides direction to municipalities on matters of provincial interest related to land-use planning. The PPS was updated in October 2024. Municipal OP's must be consistent with the PPS. Key natural heritage-related provisions of the PPS, as assessed in this report, are listed below:

> **4.1.4** Development and site alteration shall not be permitted in:
>
> a) significant wetlands in Ecoregions 5E, 6E, and 7E1; and
> b) significant coastal wetlands.
>
> **4.1.5** Development and site alteration shall not be permitted in:
>
> a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E[1];
> b) significant woodlands in Ecoregions 6E and 7E;
> c) significant valleylands in Ecoregions 6E and 7E;
> d) significant wildlife habitat;
> e) significant areas of natural and scientific interest; and
> f) coastal wetlands in Ecoregions 5E, 6E and 7E[1] that are not subject to policy 2.1.4(b)
>
> unless it has been demonstrated that there will be *no negative impacts on the natural features or their ecological functions.*
>
> **4.1.6** Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

4.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

4.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 4.1.4, 4.1.5, and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Based on the results of RiverStone's impact assessment, and contingent on the implementation of the recommendations outlined in **Section 5** of this report, it is RiverStone's opinion that the development can be accomplished in a manner that is consistent with Sections 4.1.4 to 4.1.8 of the PPS.

6.4 County of Haliburton Official Plan (2017)

The preceding sections discuss how the proposed land use changes would comply with federal and provincial legislation and policy. The County of Haliburton has policies that guide municipalities' development that includes direction related to key natural heritage and biophysical features.

5.3.1 Policies

5.3.1.3 Development and Site alteration shall not occur in the habitat of endangered and threatened species unless in accordance with provincial or federal regulations.

5.3.1.4 Local official plans shall not permit development and site alterations within identified significant wildlife habitat and Areas of Natural and Scientific Interest (ANSI's) unless it has been demonstrated, through an Environmental Impact Study (EIS), that there will be no negative impacts on the natural features or their ecological functions.

5.3.2 Natural Heritage

5.3.2.1 Local official plans may identify areas of locally significant natural heritage features and areas including wetlands, wildlife habitat, fish habitat and areas of natural and scientific interest. Locally significant areas will be protected from incompatible development and local official plans will set appropriate development standards. The policies of 5.3.2 are not intended to limit the ability of agricultural uses to continue.

5.3.2.2 Development and site alteration shall not be permitted on lands adjacent to natural heritage features identified in section 5.3.2.3 unless in accordance with policies of the Provincial Policy Statement 2014 and local official plans, provided that there will be no negative impacts on the natural heritage features or on their ecological functions. Through an EIS the ecological function of the adjacent land must be evaluated, and it must be demonstrated that there will be no negative impacts. Existing known provincially significant natural features are shown on the schedules to this Official Plan. Locally significant features may be identified in local official plans.

5.3.2.3 Lands that are contiguous to a specific natural heritage feature or area are adjacent lands for the purposes of this plan. Adjacent lands include lands where it is likely that development or site alteration would have a negative impact on the feature or area. The extent of adjacent lands within the County are as follow:

Natural Heritage Feature and Area Adjacent Lands Width

(distance from the feature for considering potential negative impacts)

a) Significant wetlands 120 m;

b) Significant wildlife habitat 120 m;

The above adjacent land distances shall be included in local official plans unless the municipality creates and implements an approach which achieves the same objectives.

Interpretation: RiverStone has identified wetland habitat and potential habitat of endangered and threatened species on the property. The recommendations within **Section 0** are intended to mitigate potential negative impacts to significant natural heritage features on the property and within adjacent lands. RiverStone's definition of adjacent lands is consistent with Section 5.3.2.3.

5.3.2.4 Not all potentially significant natural heritage features have been identified within the County. A site-specific evaluation (Site Evaluation Report) should be undertaken prior to planning approvals to determine the location of natural heritage areas and features and their ecological functions under any of the following circumstances:

d) Adjacent to or in wetlands;

e) Within adjacent lands as identified in the local official plans;

f) As identified by the County or local municipality during pre-consultation;

The Site Evaluation Report may lead to the requirement for an Environmental Impact Statement or other assessments or studies (Wetland Evaluation).

Interpretation: As part of this EIS, RiverStone has identified and delineated wetland habitat and other natural heritage features on and adjacent to the subject property.

5.3.2.5 Where a natural heritage feature or area exists a more detailed assessment will be required to determine the location and nature of the feature and to determine if it is significant.

Interpretation: RiverStone has assessed existing natural heritage features to delineate their boundaries and assess their significance. This assessment is provided above in **Section 5**.

5.3.3 Wetlands

5.3.3.1 The County of Haliburton, Ministry of Natural Resources and Forestry and Ducks Unlimited have undertaken an extensive mapping project to clarify the boundary of wetlands. Approval authorities shall use this mapping as a screening tool when reviewing development applications. Screening will be undertaken as follows:

a) Where a development proposal will extend into an area identified on the County wetland mapping, the applicant shall undertake a site assessment to accurately delineate the wetland boundaries.

b) If the proposed development is determined to occur adjacent to or within the wetland, then the applicant will undertake an Environmental Impact Study demonstrating that there will be no negative impacts to the wetland feature or its ecological function;

d) Where a development proposal is located within the adjacent lands to a wetland, as set out in the local official plans and Provincial policy, the applicant shall undertake a scoped Environmental Impact Study demonstrating that there will be no negative impacts to the wetland feature or its ecological function; and

5.3.3.2 These assessments shall be completed prior to approval of the development proposal as it will form part of the complete application and shall be completed by a qualified professional.

Interpretation: Existing mapping outlines unevaluated wetland habitat within the subject property. RiverStone has field verified and mapped the boundary of this wetland during our on-site assessment. The recommendations included in **Section 5.3** are intended to mitigate potential negative impacts to wetland habitat on and adjacent to the property due to the proposed development. This assessment has been completed as part of the approval process.

6.5 Municipality of Dysart et al. Official Plan (Office Consolidation April 2024)

Dysart et al.'s Official Plan (OP) guides land-use across the municipality in ways that complement and conform to Haliburton County's OP. Section 5 of the Official Plan provides the primary direction in regard to natural resources within the Municipality. Section 5.1 discusses policy related to water resources, which include lakes, rivers and groundwater. In regard to lakes and rivers, the setback for buildings, structures, and tile fields is 30 m. This section also encourages owners to leave the lands within the shoreline setbacks substantially undisturbed and if already disturbed, to rehabilitate the property to a natural state.

Section 5.3.4 of the Official Plan discusses the identification and protection of significant natural features, including significant habitat of endangered and threatened species, critical fish habitat, provincially significant wetlands and other wetlands, significant wildlife habitat and significant areas of natural and scientific interest.

5.3.4 Significant Natural Heritage Features

5.3.4.1 Definition

Significant natural heritage features consist of the following.

- Significant habitat of endangered and threatened species, identified by the Ministry of Natural Resources and Forestry (NHIC). These areas are listed in the municipal resource register described in Section 5.5. Where significant habitat of endangered and threatened species has not been comprehensively mapped or where no data is available, an EIS should be completed that also identifies appropriate measures to be undertaken to ensure that there will be no negative impacts on the natural features or the ecological functions of the habitat they support.

- Wetlands as identified on the County of Haliburton wetland mapping.

- Significant Wildlife Habitat – Deer Wintering Areas including Stratum 1 (core area) and Stratum 2 (broader area) identified by the Ministry of Natural Resources and Forestry (NRVIS). These areas are designated on Schedule "B".

Interpretation: The subject property contains unevaluated wetland habitat and potential habitat of endangered and threatened species.

5.3.4.2 Where Development Not Permitted

Development and site alteration is not permitted in significant habitat of endangered and threatened species, and provincially significant wetlands.

All major development proposals in the *Waterfront Area* or *Rural Area* must be accompanied by an Environmental Impact Study (EIS) to determine the potential habitat of endangered and threatened species. If in the course of the development application and approval process, the applicant becomes aware that the subject lands include actual or potential habitat of endangered species, the applicant will advise the Municipality and the Ministry of Natural Resources and Forestry at the earliest opportunity.

Interpretation: The proposed development (lot severance) occurs within potential habitat of endangered and threatened species. The recommendations in **Section 5.4** are intended to avoid and mitigate potential negative impacts to species at risk.

5.3.4.3 Where Development May Be Permitted

Council will only consider an application for development or site alteration on adjacent lands to significant natural heritage features (as defined in Section 5.3.4.4.), where it has been demonstrated through an Environmental Impact Study (EIS) that there will be no negative impacts on the natural features or their ecological functions.

Interpretation: RiverStone has considered potential impacts to adjacent lands during our assessment. RiverStone does not anticipate negative impacts to adjacent natural features or their ecological functions as long as the recommendations in **Section 0** are adhered to.

Except with respect to the wetlands shown on the County of Haliburton Wetland mapping, no Environmental Impact Study (EIS) is required if the applicant provides confirmation that the Ministry of Natural Resources and Forestry does not consider the subject lands to be within a significant natural heritage feature or its adjacent lands.

Interpretation: Wetland habitat is mapped on the subject property and **Section 5.3** provides recommendations to prevent negative impacts to this feature and its ecological functions.

5.3.4.4 Adjacent Lands

Adjacent lands contiguous to significant natural heritage features are lands within the following distances from the features:

- Provincially Significant Wetlands and Wetlands shown on the County of Haliburton mapping – 120 metres (394 feet);
- Critical Fish Habitat – 30 metres (98 feet);
- Significant Wildlife Habitat – Species of Conservation Concern – 150 metres (492 feet) from any nest or as applicable;
- Lake trout lakes – 300 metres (985 feet); and
- All other features – 50 metres (164 feet).

However, for the purposes of a specific development application, the adjacent lands contiguous to a specific feature may be varied from these standards, where documented and justified to Council's satisfaction by an Environmental Impact Study (EIS).

Interpretation: RiverStone's definitions of adjacent lands are consistent with the above.

17.5.2 Environmental Impact Study

An Environmental Impact Study will demonstrate to Council's satisfaction that the proposed development will have no negative impacts on the significant natural heritage feature, as identified in Section 5.3.4, or on the ecological functions for which the feature has been identified.

An Environmental Impact Study will be prepared, consistent with the requirements and direction of Natural Heritage Reference Manual of the Ministry of Natural Resources and Forestry and will include the following, or as scoped by the Municipality or the approval authority:

- A description of the proposal and a statement of the rationale for the undertaking;
- A description of the existing land use(s) on site and on the adjacent lands;
- A description of the topographical features and the landforms;
- The land use designation on site and on adjacent lands, as identified by this Plan;
- A description of alternative development proposals for the site, as well as, the environmental impact of the alternatives;
- A comprehensive description of the proposal, including its direct and indirect effect on the environment and considering both the advantages and disadvantages of the proposal;
- An identification of the environmental constraint areas;
- An environmental inventory of the area under development consideration (including plant life, land-base and aquatic wildlife, wetlands, natural landforms, fish, surface waters, hydro-geological features etc.);
- A statement of environmental and ecological significance of the area affected by the proposed development;
- A statement on the ecological functions of the natural features;
- Identification of Species at Risk through identified records and field inventories and potential impacts on their habitat;
- A statement on how development will contribute to the preservation and enhancement of the natural areas;
- A detailed description of mitigating effects;
- A recommendation on buffer or setback distances for building envelopes, respecting the policies of this Plan and the implementing zoning by-law;
- Any additional information requested by Council or the approval authority; and
- Where applicable, an assessment of options for servicing the development, as well as, the environmental impacts of the servicing options.

An Environmental Impact Study for proposed development adjacent to a significant natural heritage feature will include as a minimum study area, the natural heritage feature, as well as, the area surrounding that feature, in accordance with the adjacent lands described in Section 5.3.4.4.

Interpretation: RiverStone submits this EIS in consideration of the above requirements.

This scoped report has been submitted to address the various applicable natural heritage protection policies of the Municipality's OP. While not considered comprehensive/exhaustive, the list of policies above and associated interpretation is provided to support the approval authority in their review of the application for development.

6.6 Municipality of Dysart et al Comprehensive Zoning By-law 2005-120, Office Consolidation April 4, 2024

The subject property is currently zoned Rural Type 1 (RU1) and Environmental Protection (EP) in the Municipality of Dysart et al Comprehensive Zoning By-law (2005-120); however, it is assumed the proposed severed lot will require an amendment to the zoning designation for the property to allow for residential development. Section 5.2 of the Zoning By-law outlines the lot requirements for Rural Residential zoning. The development envelope is outlined on **Figure 3** and is consistent with the requirements of the Zoning By-law. Future development on the subject property will be required to adhere to the requirements within the respective zoning permitted by the Municipality's Zoning By-law.

7 CONCLUSIONS

This scoped EIS provides characterization of the natural environment occurring within and adjacent to the subject property and provides the details of the development plan. Potential negative impacts were assessed with recommendations for preventive, avoidance, and mitigation measures where appropriate.

Based upon the findings presented in this report, RiverStone has determined that the proposed application is consistent with the applicable policies and legislation, provided that the recommendations contained in **Section 5** are implemented in full. We advise that the recommendations in this report be incorporated into the development agreements for the subject property.

8 REFERENCES

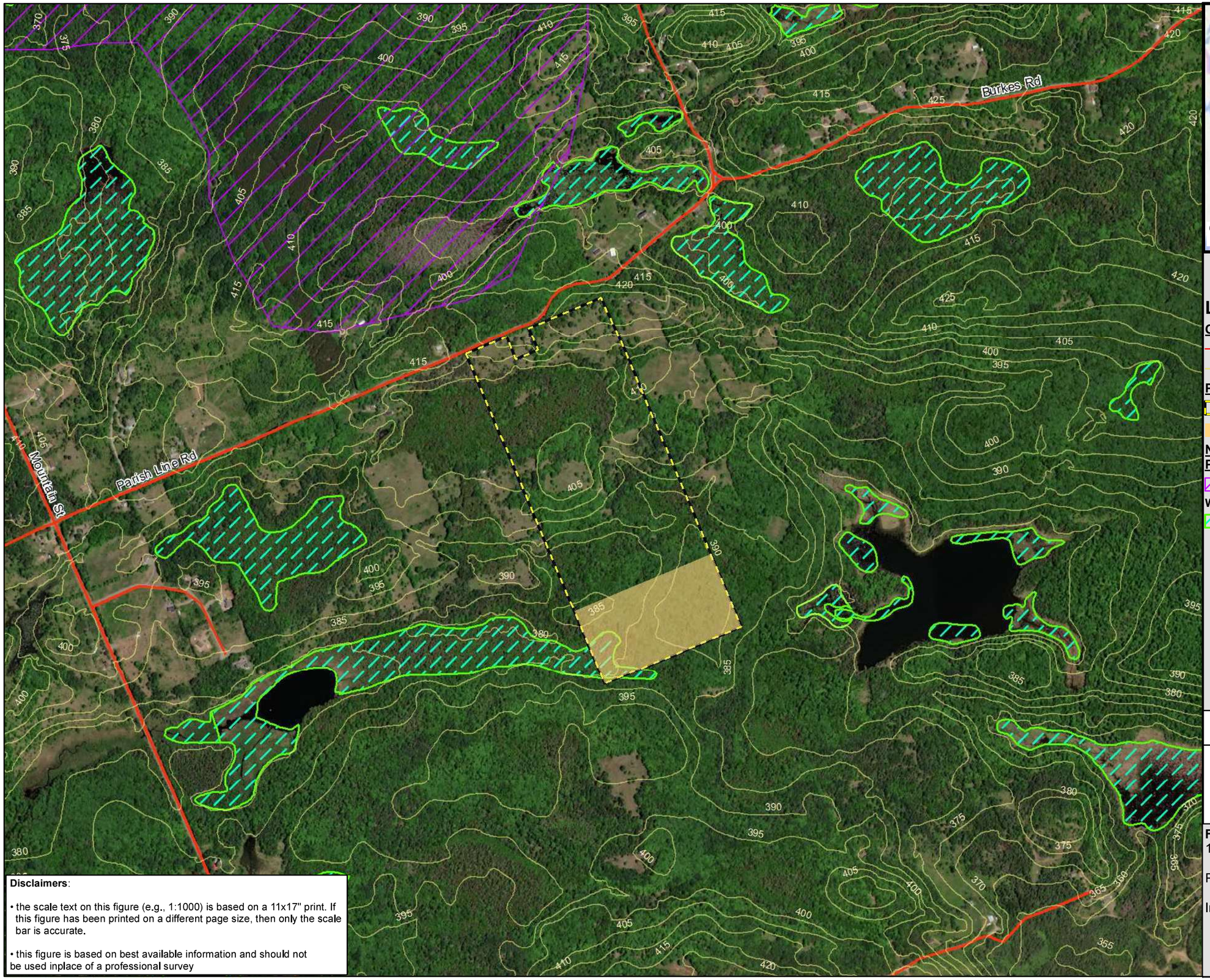
Bajc, A. F. 1994. Quaternary Geology of the Huntsville-Penetanguishene Area, Central Ontario. Queen's Printer for Ontario. Ontario. 134 pp.

Bradley, D. J. 2013. Southern Ontario Vascular Plant Species List. Queen's Printer for Ontario. Ontario. 78 pp.

Cadman, M. D., D. A. Sutherland, G. G. Beck, D. Lepage, and A. R. Couturier. 2007. Atlas of the Breeding Birds of Ontario, 2001–2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, Ontario Nature, Toronto.

Henson, B. L. and K. E. Brodribb. 2005. Great lakes conservation blueprint for terrestrial biodiversity, volume 2: ecodistrict summaries. 344 pp.

OMNR. 2010b. Natural heritage reference manual for natural heritage policies of the provincial policy statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.



N

Legend

Ontario Base Mapping (OBM)

- Roads
- 5 m Contours

Planning Boundaries

- Subject Property
- Subject Property Outside Scope of Study

Natural Heritage Features - Identified by the Province

- Stratum 2 Deer Wintering Area (OMNRF)

Wetland, Significance (OMNRF)

- Not evaluated per OWES

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:10,000	2024-282	Jan 23, 2025	JG

0 150 300 Metres

RIVERSTONE ENVIRONMENTAL SOLUTIONS INC.

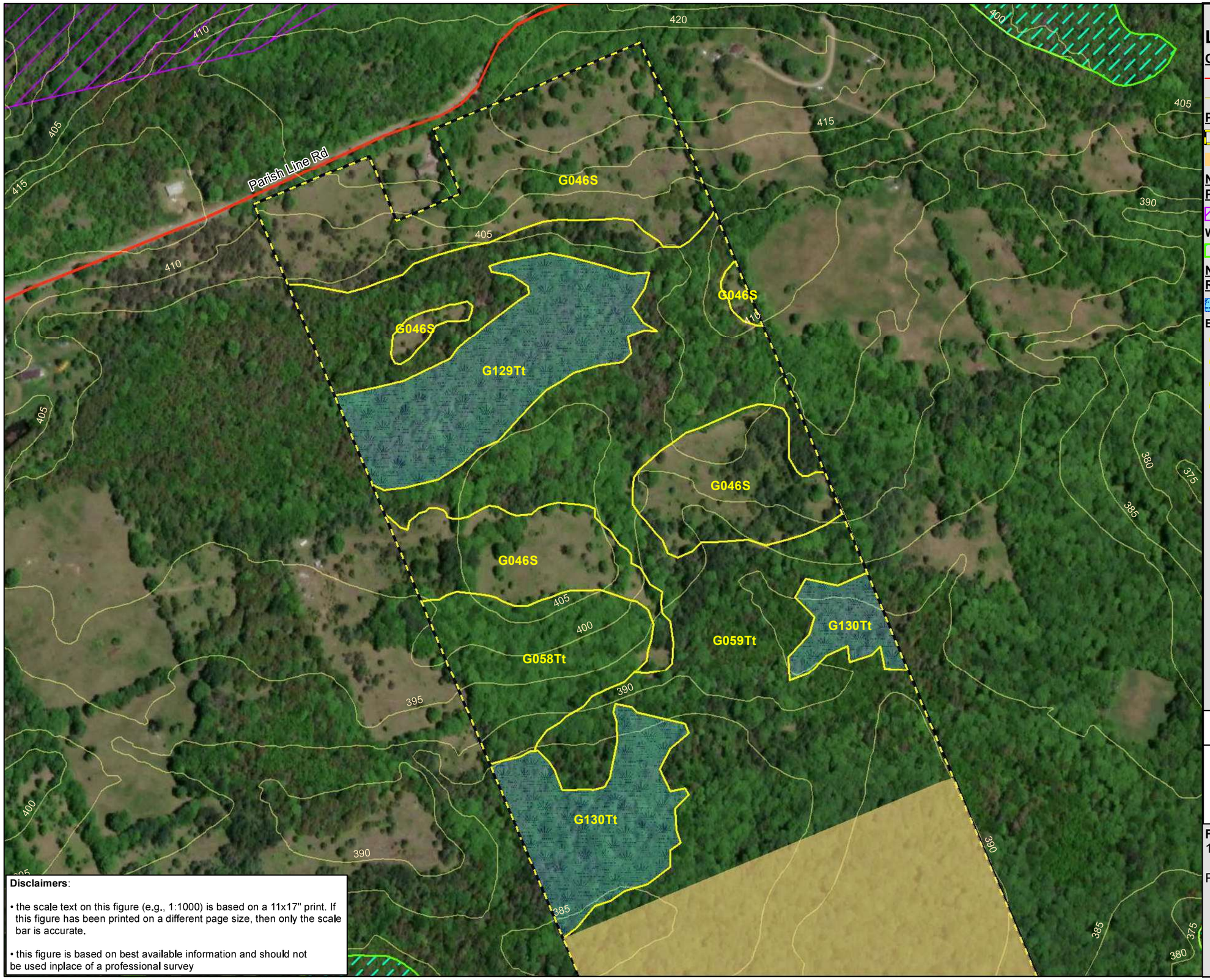
Figure 1. Location of Subject Property
1184 Parish Line Road, Haliburton

Prepared for: Jeremy Hutchings

Inset: General Location of Subject Property

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- this figure is based on best available information and should not be used inplace of a professional survey



Legend

Ontario Base Mapping (OBM)

- Roads
- 5 m Contours

Planning Boundaries

- Subject Property
- Subject Property Outside Scope of Study

Natural Heritage Features - Identified by the Province

- Stratum 2 Deer Wintering Area (OMNRF)

Wetland, Significance (OMNRF)

- Not evaluated per OWES

Natural Heritage Features - Identified by RiverStone

- Wetland

Ecological Communities

- G046S - Dry to Fresh, Coarse: Sparse Shrub
- G058Tt - Dry to Fresh, Coarse: Maple Hardwood
- G059Tt - Dry to Fresh, Coarse: Mixedwood
- G129Tt - Organic Rich Conifer Swamp
- G130Tt - Intolerant Hardwood Swamp

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:3,500	2024-282	Jan 23, 2025	JG

0 50 100 Metres

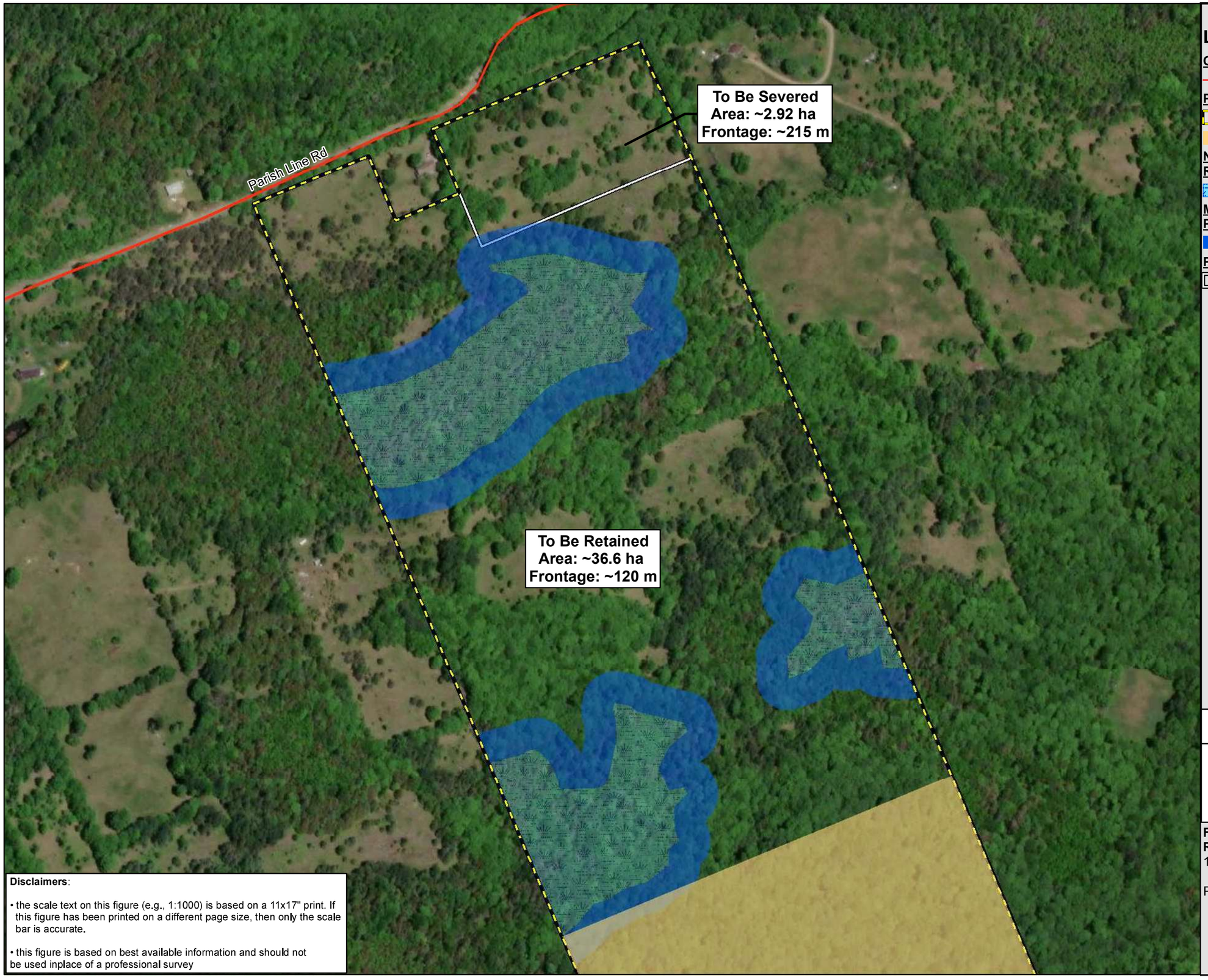
RIVERSTONE ENVIRONMENTAL SOLUTIONS INC.

Figure 2. Existing Conditions
1184 Parish Line Road, Haliburton

Prepared for: Jeremy Hutchings

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- this figure is based on best available information and should not be used inplace of a professional survey



Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- this figure is based on best available information and should not be used inplace of a professional survey

N

Legend

Ontario Base Mapping (OBM)

- Roads

Planning Boundaries

- Subject Property
- Subject Property Outside Scope of Study

Natural Heritage Features - Identified by RiverStone

- Wetland

Measures Recommended by RiverStone to Prevent and/or Reduce Impacts

- 30 m Wetland Buffer

Proposed Development and Site Alteration

- Lot Lines

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:3,500	2024-282	Jan 23, 2025	JG

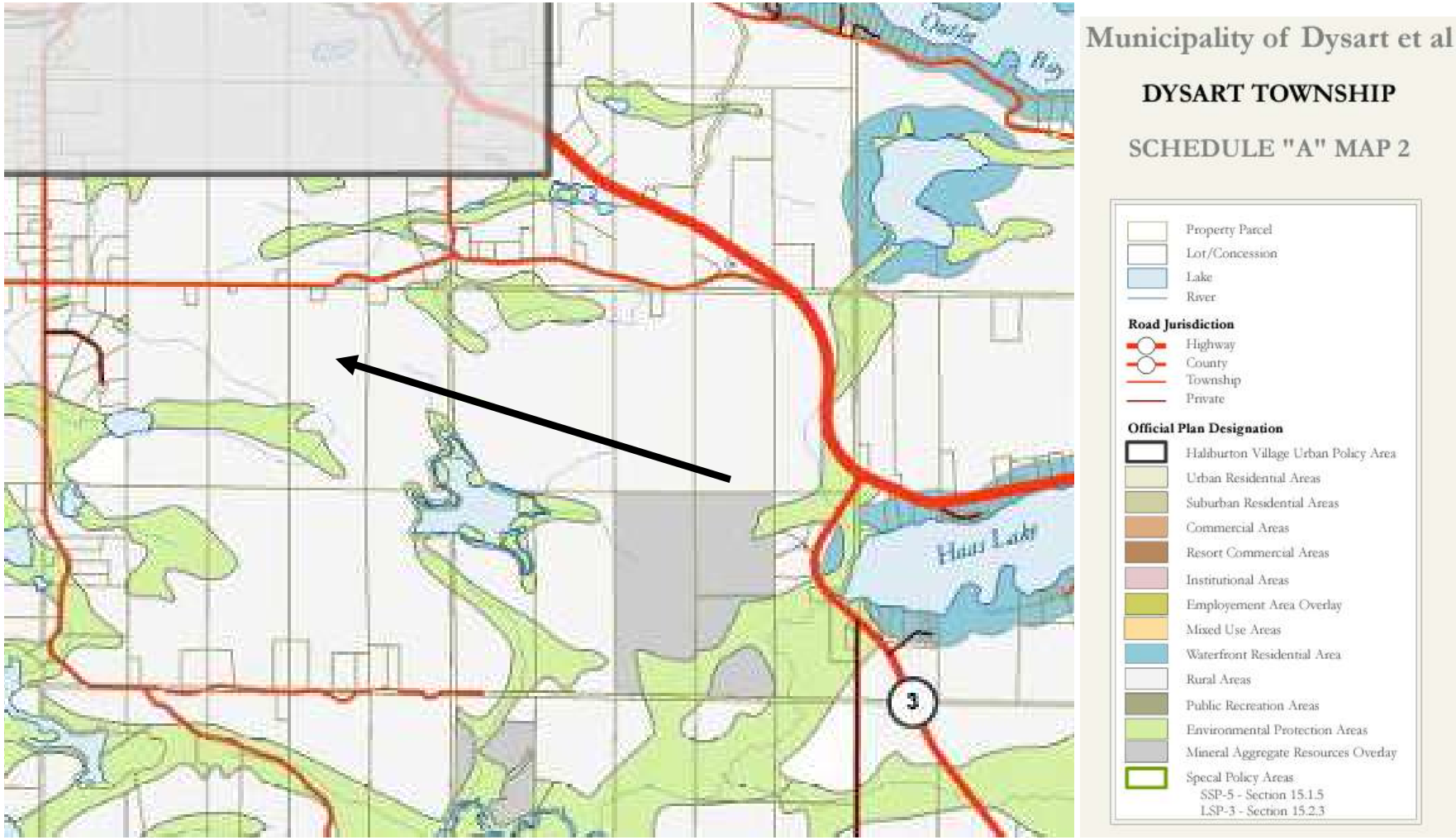
0 50 100 Metres

RiverStone

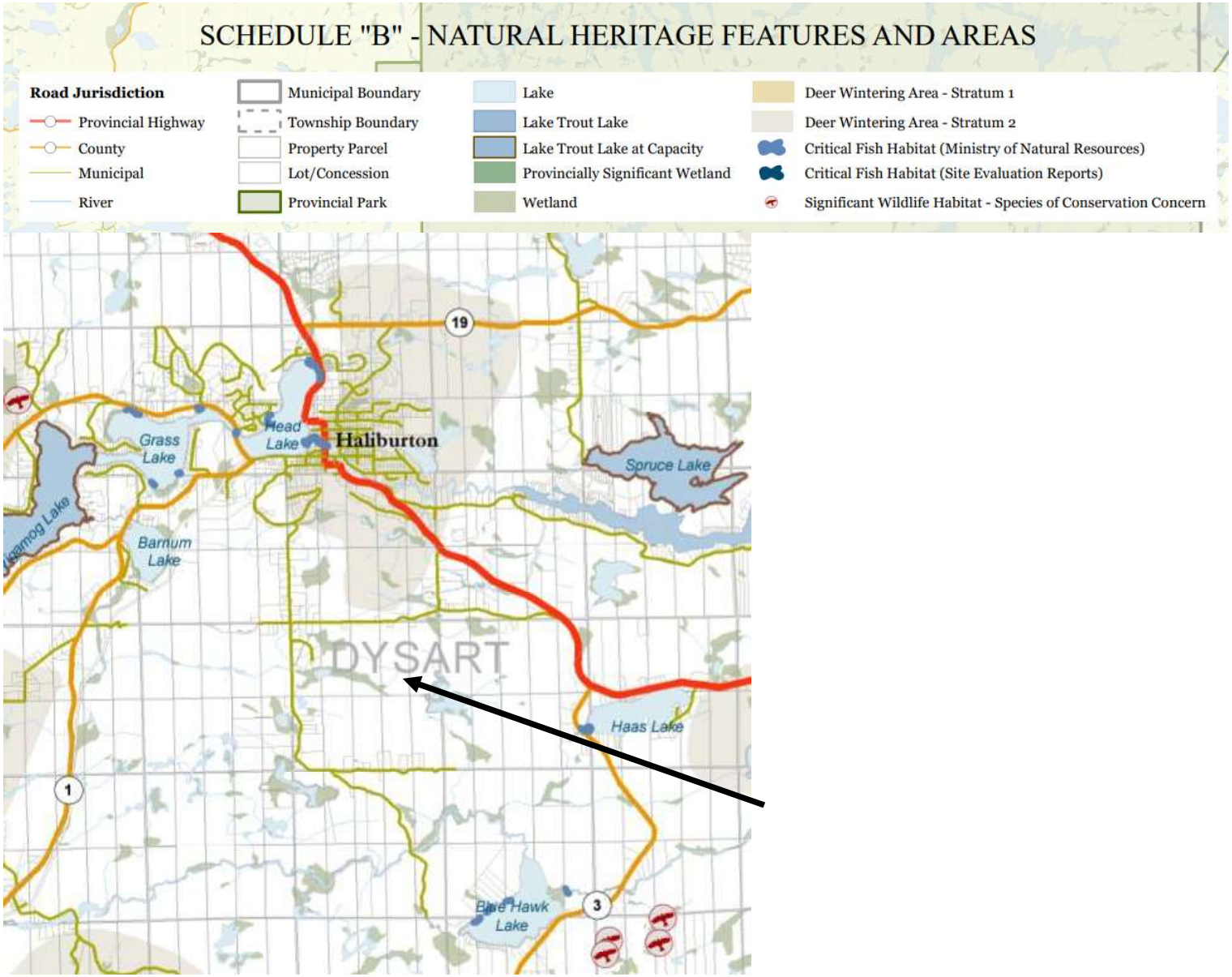
Figure 3. Proposed Development and Recommendations
1184 Parish Line Road, Haliburton

Prepared for: Jeremy Hutchings

Appendix 1. Appendices and Schedules

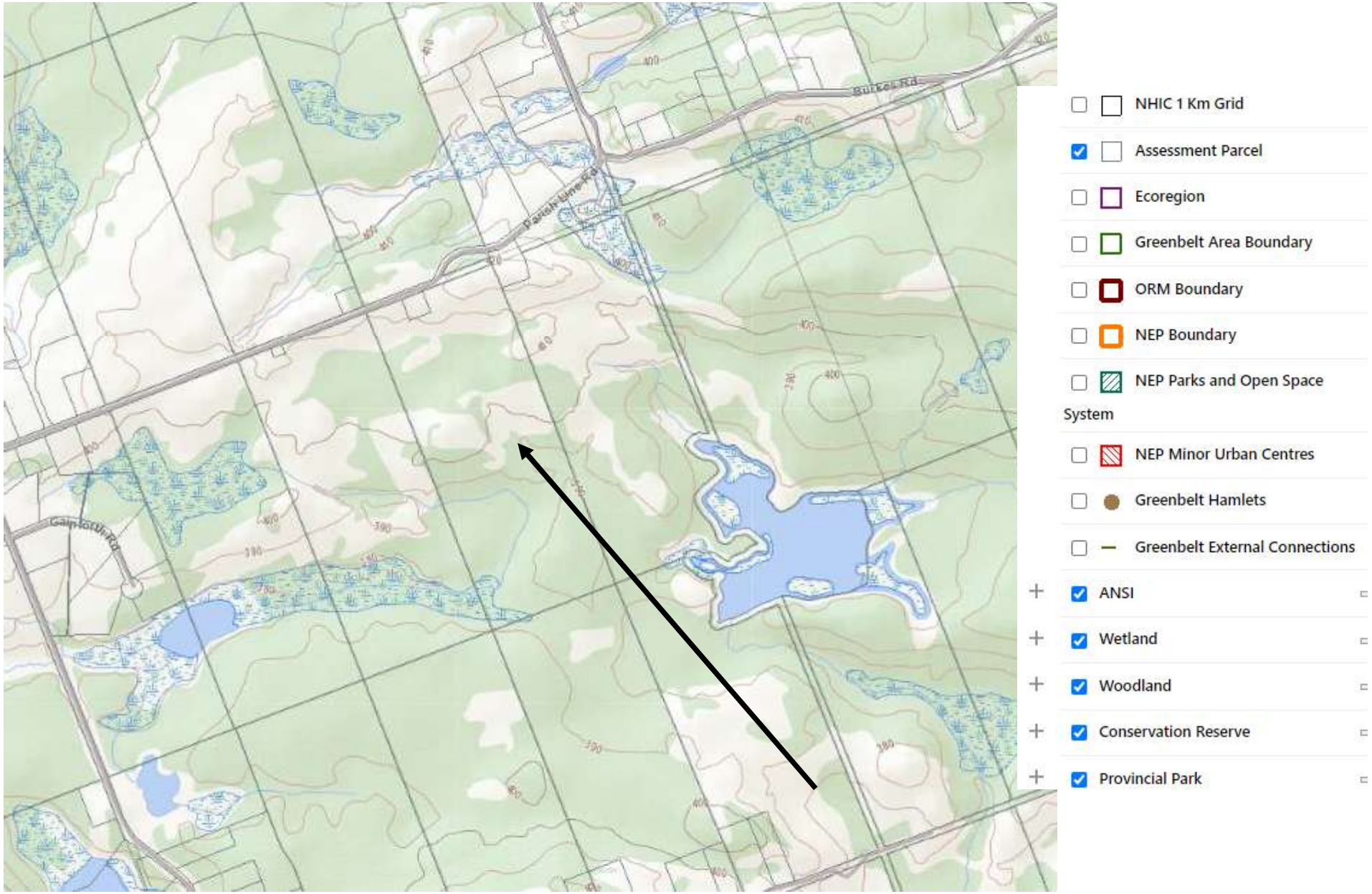


Municipality of Dysart et al Official Plan, Schedule A, Map 2 (April 2024), black arrow indicates subject property.



Municipality of Dysart et al Official Plan, Schedule B Natural Heritage Features and Areas (April 2024), black arrow indicates subject property.

Municipality of Dysart et al Zoning By-law, Schedule A, Map 2 (April 4, 2024), black arrow indicates subject property.



Natural Heritage Information Centre Mapping (2024)

Appendix 2. Site Photos

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Photo 1. View of proposed severed portion of subject property (October 23, 2024).

Photo 2. View of sparse shrub vegetation community within front portion of subject property (October 23, 2024).

Photo 3. View of rolling topography within front portion of subject property within sparse shrub vegetation community (October 23, 2024).

Photo 4. View of existing sparse shrub community with transition to mixedwood forest community on subject property (October 23, 2024).

Photo 5. Existing vegetation conditions on subject property with variable topography (October 23, 2024).

Photo 6. Cedar swamp vegetation community on subject property (October 23, 2024).

Photo 7. View of hardwood swamp vegetation community with central portion of subject property (October 23, 2024).

Photo 8. View of maple hardwood vegetation community with minimal understory vegetation (October 23, 2024).

Appendix 3. Assessment of Endangered and Threatened Species

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
American Ginseng (*Panax quinquefolius*)	END	American Ginseng requires well-drained but moist acidic to neutral soils overlying limestone or marble bedrock. They are obligate understory plants found in undisturbed mature deciduous and mixed forests, and occasionally in coniferous forests and swamps.	YES	NO	POSSIBLE	POSSIBLE	Suitable habitat is present on the local landscape. Although no species were observed during site assessments, suitable habitat could be present within the subject property outside of the assessment area. Further assessment provided in report.
Bank Swallow (*Riparia riparia*)	THR	The Bank Swallow is a small aerial insectivore bird that nests colonially in burrows they excavate within banks. Colonies will nest in bluffs, riverbanks, aggregate pits, roadside embankments, and topsoil piles near open habitat that provides a steady source of insects. Colony sites must also be near roosting areas in wetland, reed, or cane beds.	YES	YES, OBBA	NO	NO	The OBBA contains a possible breeding record for the associated 10km2 data square. No local records are present in NHIC or iNaturalist. No suitable habitat appears to be present within the subject property. No further assessment undertaken.
Black Ash (*Fraxinus nigra*)	END	The Black Ash grows everywhere in Ontario except the Far North. These trees require moisture, and are commonly found in northern swampy woodlands, from eastern Manitoba, throughout Ontario, and as far east as Newfoundland.	YES	NO	YES	POSSIBLE	Suitable habitat is present on the local and regional landscape and the species was observed during site investigations. Further assessment provided in report.

[1]Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Blanding's Turtle (*Emydoidea blandingii*)	THR	Blanding's Turtle are semi-aquatic and use wetland habitats with shallow water and abundant vegetation. Their habitat includes a broad range of wetlands, forest clearings, and meadows. They breed in aquatic habitat and nest in open natural and anthropogenic upland areas.	YES	YES, Herp Atlas	POSSIBLE	POSSIBLE	The Herp Atlas contains records of Blanding's Turtle within the 10 km2 data square; however, wetland habitat on the subject property does not contain appropriate water depths and water plants to support this species. No further assessment provided.
Bobolink (*Dolichonyx oryzivorus*)	THR	Nests and forages in meadows, grasslands, hayfields, and pastureland. Fields must have 25% or less woody plant cover. They typically require large fields (>4ha) and avoid small, fragmented habitats. They also avoid habitat within 75 m of a forest edge.	YES	YES, OBBA	NO	NO	The OBBA contains a possible breeding record for the associated 10km2 data square and suitable habitat may be present on the local and regional landscape. No local records are present in NHIC or iNaturalist and the subject property does not contain hayfield or pastureland that would provide suitable breeding habitat. No further assessment provided.
Butternut (*Juglans cinerea*)	END	Butternut is shade intolerant and grows in rich, moist, well-drained loams often along streambanks. Butternut is also found in well-drained gravel sites. It is often found at forest edges where it can access abundant sunlight.	YES	NO	NO	POSSIBLE	While suitable habitat may be present where soil depths are deeper, this species was not observed during the site investigation. No further assessment provided.

[1]Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Chimney Swift (*Chaetura pelagica*)	THR	The Chimney Swift historically nested and roosted in large hollow trees, rock walls, and other vertical surfaces. They now use human-made structures like uncapped chimneys and have high site fidelity to nesting chimneys. 95% of nests are within 1 km of a waterbody.	YES	YES, OBBA	NO	POSSIBLE	The OBBA contains a possible breeding record for the associated 10km2 data square and suitable habitat may be present on the local and regional landscape. No local records are present in NHIC or iNaturalist and the subject property does not contain vertical structures or surfaces that would provide suitable habitat. No further assessment provided.
Eastern Hog-nosed Snake (*Heterodon platirhinos*)	THR	Eastern Hog-nosed snakes require a mosaic of habitats with sandy, well-drained soil and open vegetation close to water with a supply of American Toads. Their Ontario distribution is limited by climate and soil to the French River/Lake Nipissing and Carolinian areas.	YES	YES, Herp Atlas	YES	POSSIBLE	The Herp Atlas contains records for this species on the associated 10km2 data square that covers the subject property. Suitable habitat may be present on a local and regional landscape and habitat characteristics on the subject property have the potential to provide habitat for this species. See report for further discussion.
Eastern Meadowlark (*Sturnella magna*)	THR	Nests and forages in meadows, grasslands, shrubby fields, hayfields and pastureland. Prefers habitat with >80% grass cover. Needs a minimum of 5 ha of continuous habitat.	YES	YES, OBBA	NO	NO	While records of this species are present within the OBBA 10km2 data square, and suitable habitat may be present on the local and regional landscape. The subject property does not contain hayfield, pastureland or other habitat that would provide suitable breeding habitat. No further assessment provided.

[1]Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Eastern Small-footed Myotis (*Myotis leibii*)	END	Eastern Small-footed Myotis overwinter in caves and mines in Ontario and do not disperse far from their hibernacula during the summer. They can be found roosting in rocky habitats singly or in groups but will also use human structures as day roosts. They are aerial insectivores and forage in forests, rocky habitats, and ponds.	YES	NO	NO	POSSIBLE	The subject property lacks rocky habitat with table rocks or talus and anthropogenic structures that would support this species. This species is not anticipated to use the subject property. Any future development would be limited to the subject property. No further assessemnt provided.
Lake Sturgeon (*Acipenser fulvescens*)	END/THR	Lake Sturgeon need large continuous habitats in river and lake systems to provide for spawning, larval, juvenile, sub-adult, and adult habitat. Spawning takes place in shallow fast flowing headwaters where a natural or man-made barrier occurs. Spawning substrates are gravel, rock, hardpan, or sand. Larval and juvenile fish use clayey substrate habitats and older fish inhabit deep pools.	YES	NO	NO	NO	The subject property does not contain river or lake habitat suitable for Lake Sturgeon.
Least Bittern (*Ixobrychus exilis*)	THR	Breeds in large marshes within Southern Ontario. Creates nest platforms from tall, dense emergent vegetation within 10m of water and prefers Typha spp. Will use other emergent vegetation. Needs 200 ha of wetland for nesting and foraging but does not need to be continuous wetland. Prefers complexes of smaller wetlands. Will avoid marshes surrounded by >30% forest cover or containing large trees.	YES	YES, OBBA	NO	NO	The OBBA contains a possible breeding record for the associated with their 10km2 data square and suitable habitat may be present on the local and regional landscape. The subject property nor adjacent land contain large wetland habitat suitable for this species. No further assessment provided.

[1]Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Lesser Yellowlegs (*Tringa flavipes*)	THR	Lesser Yellowlegs migrate through southern Ontario, stopping in wetlands, flooded fields, river and lake shorelines, and sewage lagoons. They prefer marshes dominated by Softstem Bulrush and Smooth Cordgrass. During migration they form flocks ranging from a few dozen to several thousand birds. They may form mixed flocks with Greater Yellowlegs and Solitary Sandpiper.	YES	NO	NO	NO	There are no OBBA, NHIC, or iNaturalist database records for this species within the respective data squares and the subject property does not contain wetland communities dominated by softstem bulrush and smooth cordgrass that would be suitable habitat for this species.
Little Brown Myotis (*Myotis lucifugus*)	END	Their hibernacula are within caves and abandoned mines, wells, and tunnels. Maternity colonies are within a few kilometers of hibernacula within snag trees, rock crevices, exfoliating tree bark, and anthropogenic structures. Roosts and swarming sites are in similar areas around the hibernacula.	YES	YES	YES	YES	The subject property contains wooded habitat containing trees appropriate for roosting by this species. While no further development is proposed at this time, future development on the property could require remove of potential habitat. See report for further discussion.
Northern Myotis/Northern Long-eared Bat (*Myotis septentrionalis*)	END	Northern Myotis are found below the tree line in Canada and are mostly absent from the prairies. They use live and dead trees near water in forest habitats when active and migrate to caves and abandoned mines for hibernation.	YES	YES	YES	YES	The subject property contains wooded habitat containing trees appropriate for roosting by this species. While no further development is proposed at this time, future development on the property could require remove of potential habitat. See report for further discussion.

[1]Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Pale-bellied Frost Lichen (*Physoconia subpallida*)	END	Pale-belied Frost Lichen are known to occur in Lanark, Renfew, Hastings, and Frontenac counties. They require high humidity, frequent fog, and moderate to high shade. They grow on American Elm, Ash species, Ironwood, Hop-hornbeam, and old rails. They are sensitive to edge effects and prefer mature and old growth forests.	YES	NO	POSSIBLE	POSSIBLE	The the host species (Elm, Ash, Ironwood) was present on the subject property; however, these species would not be considered mature/old growth and the topography of the property does not lend itself to providing high humidity that would be suitable for this species. No further assessment undertaken.
Red-Headed Woodpecker (*Melanerpes erythrocephalus*)	END	The Red-headed Woodpecker lives in open woodland and woodland edges and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, that the bird uses for nesting and perching. The Red-headed Woodpecker is found across southern Ontario, where it is widespread but rare.	YES	YES, OBBA	NO	NO	Records of occurrence for this species are within the 10km2 OBBA data square and this species can be found in many generic locations, the study area does not support any open areas with large numbers of dead-standing trees that would represent ideal habitat. In general, there is no expectation that the study area is supporting functional habitat for this species. No further assessment undertaken.
Short-eared Owl	THR	The Short-eared Owl breeds in northern Ontario and is found year-round in southern Ontario. They use open habitats (tundra, grassland, pasture) to nest on the ground and overwinter in open areas with nearby roosting trees. They shelter from inclement weather in conifers and emergent wetland vegetation.	YES	NO	NO	NO	There are no OBBA, NHIC, or iNaturalist database records for this species within the respective data squares and the subject property does not contain open habitats (tundra, grassland, pasture) that would be suitable for this species.

[1]Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Spotted Turtle (*Clemmys guttata*)	END	The Spotted Turtle uses a mix of terrestrial and aquatic habitats. Aquatic habitats include wetlands, ponds, vernal pools, creeks, streams, sheltered bay edges, stormwater ponds, and man-made channels. Their terrestrial habitats are shorelines, rocky outcrops, upland forests, open fields, and meadows.	YES	NO	NO	NO	There are no NHIC, Herp Atlas, or iNaturalist database records for this species within the respective data squares for the property. The subject property contains a mix of terrestrial and aquatic habitats that includes wetland; however, the known range for this species is typcially found around Georgian Bay and isolated spots in southern Ontario.
Tricolored Bat (*Perimyotis subflavus*)	END	The Tri-colored Bat have a scattered distribution and are found as far north as Sudbury. They are found in a variety of forested habitats They overwinter alone in caves and mines and roost in dead vegetation clumps and lichen in forested habitats near water.	YES	YES	YES	YES	The subject property contains wooded habitat containing trees appropriate for roosting by this species. While no further development is proposed at this time, future development on the property could require remove of potential habitat. See report for further discussion.

[1]Highlighted species are present on or are likely to be present on the subject property.