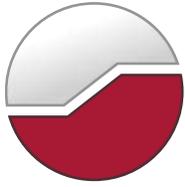


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**Scoped Environmental Impact Statement
Plan of Subdivision
Part of Lots 9 and 10, Concession A
Village of Merrickville, Ontario**



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Submitted to:

Parkview Homes c/o Holzman Consultants Inc.
6750 Fourth Line Road
North Gower, Ontario
K0A 2T0

**Scoped Environmental Impact Statement
Plan of Subdivision
Part of Lots 9 and 10, Concession A
Village of Merrickville, Ontario**

June 7, 2019
Project: 64908.02

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Ltd. (GEMTEC) was retained by Parkview Homes c/o Holzman Consultants Inc. to carry out an Scoped Environmental Impact Statement (EIS) for the property located at Part of Lots 9 and 10, Concession A in the Village of Merrickville, Ontario (hereafter referred to as “the subject property”). The general location of the subject property is illustrated on Figure 1, Site Location. Report figures are located following the text of this report.

1.1 Purpose

The property owner is seeking to obtain draft plan approval and a zoning amendment to permit the development of approximately 75 townhome units on six existing property parcels within the Village of Merrickville. The proposed development covers an area of approximately 2.05 hectares (ha). Based on *Section 4 – Natural Heritage, Water Resources and Cultural Heritage* of the United Counties of Leeds and Grenville Official Plan (2015), an Environmental Impact Statement (EIS) is required showing that the proposed development will not negatively impact any potential natural heritage features which may be present within the study area. The study area is defined as the property boundary and the adjacent lands encompassing an area of 120 m beyond the property boundary. The subject property and the extents of the study area are illustrated on Figure 2, Site Layout.

Based on preliminary consultations with the County, this EIS has been scoped in order to evaluate the feasibility of the proposed development. The Scoped EIS is required to demonstrate that the proposed development, at full buildout would not negatively impact or compromise any potential natural heritage features which may be present within the study area.

1.2 Objective

The 2014 Provincial Policy Statement (MMARH, 2014) issued under Section 3 of the Planning Act states that “development and site alteration shall not be permitted in: habitats of species at risk, significant wetlands, significant woodlands and significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features of their ecological functions.” Similarly, the 2014 Provincial Policy Statement dictates that ‘development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.’”

The objective of the work presented herein is twofold; 1) to identify and evaluate the significance of any natural heritage features, as defined in the Provincial Policy Statement (MMAH, 2014), on the subject property and within the broader study area and; 2) to assess the potential impacts from the proposed development on any natural heritage features identified and to recommend appropriate and defensible mitigation measures to ensure the long-term protection of any natural heritage features identified.

To meet these objectives, the EIS presented herein has been completed in accordance with the following federal, provincial and municipal policies and guidelines:

- Provincial Policy Statement (MMARH, 2014);
- Species at Risk Act (Canada, 2002)
- Endangered Species Act (Ontario, 2007);
- Conservation Authorities Act (Ontario, 1990);
- Natural Heritage Reference Manual (OMNR, 2010); and
- United Counties of Leeds and Grenville Official Plan (2015).

1.3 Physical Setting

The subject property is located at part of Lot 9 and 10, Concession A, in the Village of Merrickville, Ontario, and is comprised of mixed thickets and mixed forest communities. The subject property is bound to the north by the rear lot lines of properties fronting to Colborne Street W and to the south by rear property lines fronting to Sophie Lane. To the east the site is bound by rear lot lines of properties fronting to Highway 15, and to the west the site is bound by rear lot lines of properties fronting to Wallace Street and Alice Street.

1.3.1 Land Use Context

The subject property is situated within an urban residential area. The existing land use designation from the Leeds and Grenville OP is urban settlement area, and the zoning by-law from the Village of Merrickville-Wolford is development zone.

2.0 METHODOLOGY

2.1 Desktop Review

A desktop information gathering exercise was completed to aid in the scoping of field investigations and to gather information relating to natural heritage features which may be present on the subject project or within 1 km of the subject property. An additional component of the desktop review was to assess the potential presence of SAR to occur on the subject property or within the study boundary based on a review of publicly accessible occurrence records, a review of SAR habitat requirements and range maps.

Following changes to the MNRF natural heritage information request process, as of 2019, the MNRF is no longer providing responses to these requests. As such, an information request was not submitted for this project. In lieu of a request response, the Natural Heritage Information Request Guide (MNRF, 2018) was examined and the data resources listed below were reviewed for relevant natural heritage feature and SAR data relating to the site.

Information regarding the potential presence of natural heritage features and SAR within the vicinity of the site was obtained from the following sources:

- Land Information Ontario (OMNR, 2011);
- United Counties of Leeds and Grenville Official Plan (UCLG, 2015)
- Ontario Geological Survey (OGS, 2019);
- Rideau Valley Conservation Authority Geoportal (RVCA, 2019);
- Fisheries and Oceans Canada SAR Maps (DFO, 2019);
- Natural Heritage Information Centre Biodiversity Explorer (OMNR, 2013);
- Breeding Bird Atlas of Ontario (Cadman, et al., 2007)
- Atlas of Mammals of Ontario (Dobbyn, 1994);
- Ontario Herpetofaunal Atlas (Oldham and Weller, 2000);
- Ontario Ordonata Atlas (OMNR, 2005); and
- Royal Ontario Museum Range Maps (ROM, 2010).

2.2 Field Investigations

A field investigation was undertaken to describe in general and from a preliminary screening context, the natural and physical setting of the subject property with a focus on natural heritage features and to identify any potential SAR or their habitat that may exist at the subject property.

A single field investigation in support of this EIS was completed on May 23, 2019 from 12:45 to 14:20. Weather conditions during the investigation were as follows: 18°C, overcast, Beaufort wind 3, rain beginning at 13:45.

Photographs of site features taken during the field investigations are provided in Appendix A.

2.2.1 Ecological Land Classification

Vegetation communities on the subject property were delineated during the desktop review stage of this EIS using publicly available air photos and confirmed in the field on May 23, 2019, following the Ecological Land Classification System for Southern Ontario (Lee, et al, 2008). Vegetation communities were confirmed in the field by employing the random meander methodology while documenting dominant vegetation species within the various vegetation community forms.

2.3 Data Analysis

An evaluation of the significance of natural heritage features, the sensitivity of identified flora and fauna and the potential impacts posed by the proposed development was undertaken through an analysis of desktop and field investigation data using the approaches and criteria outlined in the following documents:

- Natural Heritage Reference Manual (OMNR, 2010);
- Significant Wildlife Habitat Technical Guide (OMNR, 2000);
- Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNR, 2015); and
- Significant Wildlife Habitat Mitigation Support Tool (OMNR, 2014).

3.0 EXISTING ENVIRONMENT

3.1 Ecoregion

The site is situated Ecoregion 6E-11 (Lake Simcoe-Rideau), which extends from Lake Huron in the west to the Ottawa River in the east. The climate of Ecoregion 6E is categorized as humid, high to moderate temperate ecoclimate with a mean annual temperature range between 4.9°C to 7.8°C with annual precipitation ranging between 759 mm to 1,087 mm (Crins et al., 2009).

The eastern portion of the Ecoregion, which the subject property is located, is underlain by glaciomarine deposits as a result of the brief post-glacial incursion of salt water from the Champlain Sea along the St. Lawrence Valley. This Ecoregion falls with Rowe's (1972) Great Lakes-St. Lawrence Forest Region, including its Huron-Ontario and Upper St. Lawrence sections, and a small part of the Middle Ottawa Forest section (Crins, et al., 2009).

3.2 Landforms, Soils and Bedrock Geology

The topography of the site is relatively flat, with a gentle slope downward from south to north, from a topographical high of 119 mASL in the southwest portion of the site to a topographical low of 114 mASL in the northwest portion of the site.

A single topographical landform, as mapped by Chapman and Putman (1984) is described on the subject property. Limestone plains of the Smiths Falls Limestone Plan physiographic region occurs through the entire site.

The Ontario Geological Survey (OGS, 2019) identifies a single surficial soil unit on the subject property, Paleozoic bedrock.

Bedrock at the site, as described by OGS (2019) consists of dolostone and sandstone from the Beekmantown Group.

3.3 Surface Water, Groundwater and Fish Habitat

No surface water features were identified on-site during the desktop review or during the site investigation.

Groundwater investigations were not completed in support of this EIS.

3.4 Vegetation Communities

Vegetation communities on-site were characterized by GEMTEC in 2019, following protocols utilized in the Southern Ontario Ecological Land Classification System (Lee, et al., 2008). Vegetation at the site represents a mosaic of upland and lowland deciduous and mixed forests with culture thickets and pastures also present. Table 1 below provides a summary of the various vegetation communities identified on-site.

Table 3.4 Vegetation Communities

ELC Type	Description	Size (ha)
Mixed Thicket (THM)	This community occurs over the southern and central portions of the property. This vegetation community was dominated primarily by common buckthorn (<i>Rhamnus cathartica</i>) and common juniper (<i>Juniperus communis</i>). Canopy tree species in this community were sparse, and mostly concentrated along the property lines, and included Eastern white cedar (<i>Thuja occidentalis</i>), Scotts pine, Manitoba maple (<i>Acer negundo</i>), white spruce (<i>Picea glauca</i>) and black cherry (<i>Prunus serotina</i>). Lesser constituents in the subcanopy included buckthorn saplings, green ash (<i>Fraxinus pensylvanica</i>) saplings, and Manitoba maple saplings. The herbaceous layer consisted of wild carrot (<i>Daucus carota</i>), red raspberry (<i>Rubus idaeus</i>), dandelion (<i>Taracacum officinale</i>), goldenrod (<i>Solidago sp.</i>), and other gramminoid species.	0.57
Deciduous Thicket (THD)	The largest community on-site, this community occurs over the southern and central portions of the property. This vegetation community was dominated primarily by common buckthorn (<i>Rhamnus cathartica</i>). Canopy tree species in this community were sparse, and mostly concentrated along the property lines, and included Eastern white cedar (<i>Thuja occidentalis</i>), Scotts pine, Manitoba maple (<i>Acer negundo</i>), white spruce (<i>Picea glauca</i>) and black cherry (<i>Prunus serotina</i>). Lesser constituents in the subcanopy included buckthorn saplings, green ash (<i>Fraxinus pensylvanica</i>) saplings, and Manitoba maple saplings. The herbaceous layer consisted of wild carrot (<i>Daucus carota</i>), red raspberry (<i>Rubus idaeus</i>), dandelion (<i>Taracacum officinale</i>), goldenrod (<i>Solidago sp.</i>), and other gramminoid species.	0.75
Mixed Forest (FOM)	This community occurs in the extreme north portion of the site. The canopy cover of this community is dominated by Scotts Pine and large tooth aspen (<i>Populus grandidentata</i>). The subcanopy of this community was dominated almost entirely of common buckthorn. The herbaceous layer in this community was minimal. , centre and southwest corner of the site.	0.55

Vegetation communities are illustrated on Figure 3, Vegetation Communities.

3.5 Wildlife

Wildlife observed on-site and within the study area during field investigations completed on May 29, 2019 are summarized in Table 3.5 below.

Table 3.5 Summary of Wildlife Observed On-site and within the Study Area

Species	Evidence
Avian	
Mourning Dove (<i>Zenaida macroura</i>)	Heard calling
Black Capped Chickadee (<i>Poecile atricapillus</i>)	Heard calling, observed foraging
American Crow (<i>Corvus brachyrhynchos</i>)	Heard calling
American Robin (<i>Turdus migratorius</i>)	Heard calling, observed foraging
Eastern Phoebe (<i>Sayornis phoebe</i>)	Heard calling, observed perched
Great Crested Flycatcher (<i>Myiarchus crinitus</i>)	Heard calling
Blue Jay (<i>Cyanocitta cristata</i>)	Heard calling, observed perched
Northern Cardinal (<i>Cardinalis cardinalis</i>)	Heard calling
Mammalian	
White Tail Deer (<i>Odocoileus virginianus</i>)	Observed tracks, browse, scat

4.0 NATURAL HERITAGE FEATURES

Natural heritage features are defined in the PPS as “features and area, including *significant wetlands, significant coastal wetlands, fish habitat, significant woodlands south and east of the Canadian Shield, significant valleylands south and east of the Canadian shield, significant habitats of endangered species and threatened species, significant wildlife habitat and significant areas of natural and scientific interest*, which are important for their environmental and social values as a legacy of the natural landscape of an area”.

4.1 Significant Wetlands

As described in the Natural Heritage Reference Manual (OMNR, 2010), wetlands “mean lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface.” While *significant* in regards to wetlands means “an area identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time.”

No provincially significant wetlands (PSW) were identified within the study area during the desktop investigation or during the site investigation. As such, significant wetlands are not evaluated further in this EIS.

4.2 Significant Woodlands

Significant woodlands are defined in the natural heritage reference manual (OMNR, 2010) as “an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.”

At the local scale, significant woodlands are defined and designated by the local planning authority. Generally, most planning authorities have defined significant woodlands as any woodland that contains any of the four criteria listed in Section 7.2 of the natural heritage reference manual (OMNR, 2010), including: woodland size, ecological functions, uncommon characteristics and economic and social functional values.

Table B.1 in Appendix B, presents the screening rationale for significant woodlands applied in this EIS. For comparison of woodland criteria used in Table B.1, it is assumed that the woodland coverage within the planning area (United Counties of Leeds and Grenville) is between 15% and 30% of the land area, therefore the minimum woodland size for determining significance is 20 ha or greater, based on the guidance outlined in the natural heritage reference manual (OMNR, 2010).

Based on the results of the significant woodland screening presented in Table B.1, the forest along the west property boundary and adjacent, off-site forest are not considered significant as

they do not meet the minimum size criteria of 20 ha. As such, significant woodlands are not discussed or evaluated further in this EIS.

4.3 Significant Valleylands

Valleylands are defined in the natural heritage reference manual (OMNR, 2010) as ‘a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of time’. The identification and evaluation of significant valleys lands in Ontario is based on the recommended criteria from the MNRF and is the responsibility of local planning authorities.

In Southern Ontario, conservation authorities have identified valleylands as part of their regulation mapping (i.e., floodplain mapping); however, where valleys lands have not been defined, their physical boundaries are generally determined as the ‘top-of-bank’ or ‘top-of-slope’ associated with a watercourse. For less well-defined valleys, the physical boundary may be defined by riparian vegetation, flooding hazard limits, ordinary high water marks or the width of the stream meander belt (OMNR, 2010).

As discussed in Section 3.2, the site is relatively flat and no valleylands have been identified on-site, as such valleylands are not discussed or evaluated further in this EIS.

4.4 Significant Areas of Natural and Scientific Interest

The MNRF identifies two types of areas of natural and scientific interest (ANSI) in Ontario: life sciences ANSIs typically represent significant segments of Ontario’s biodiversity and natural landscapes, while earth science ANSIs typically represent significant examples of bedrock, fossils or landforms in Ontario (OMNR, 2010).

No ANSI have been identified on-site or adjacent to the site during the desktop review or during site investigations. Therefore, ANSI are not discussed or evaluated further in this EIS.

4.5 Significant Wildlife Habitat

The natural heritage reference manual (OMNR, 2010), in combination with the significant wildlife habitat technical guide (MNRF, 2000) and the significant wildlife habitat ecoregion criterion schedules (MNRF, 2015) were used to identify and evaluate potential significant wildlife habitat on-site. The significant wildlife habitat is broadly categorized as habitats of seasonal concentration of animals, rare vegetation communities, specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors. Table B.2, B.3, B.4 and B.5 in Appendix B, provide the screening rationale for each category of significant wildlife habitat, respectively.

4.5.1 Habitats of Seasonal Concentrations of Animals

Seasonal concentration areas are habitats where large numbers of species congregate at one particular time of the year. The significant wildlife habitat technical guides (MNRF, 2000) and significant wildlife habitat ecoregion criterion schedules (MNRF, 2015) identify 12 types of seasonal concentration habitats that may be considered significant wildlife habitat. These 12 types of seasonal habitat are presented in Table B.2 in Appendix B, including a brief description of the rationale as to why they are or are not assessed further in this EIS.

Based on the results of the habitat of seasonal concentrations of animals screening presented in Table B.2, no habitats of seasonal concentrations of animals occur on-site. As such, habitat of seasonal concentration of animals is not discussed or evaluated further in this EIS.

4.5.2 Rare Vegetation Communities

Rare vegetation communities in the province are described generally as those with an S1 to S3 ranking by the NHIC, and typically include communities such as sand barrens, alvars, old growth forests, savannahs and tallgrass prairies.

The vegetation communities identified on-site and described in Section 3.4 of this report are not ranked by the NHIC as S1, S2 or S3 and are therefore not considered to be rare vegetation communities. As such, rare vegetation communities are not discussed or evaluated further in this EIS.

4.5.3 Specialized Habitats for Wildlife

Specialized wildlife habitats are microhabitats that provide a critical resource to some groups of wildlife. The significant wildlife habitat technical guide (MNRF, 2000), defines eight specialized habitats that may constitute significant wildlife habitat, these eight types of specialized wild habitat are evaluated in Table B.3 in Appendix B.

Based on the results of the specialized habitats for wildlife screening presented in Table B.3, no specialized habitats for wildlife occur on-site. As such, specialized habitats for wildlife is not discussed or evaluated further in this EIS.

4.5.4 Habitats of Species of Conservation Concern

Provincial rankings are used by the Natural Heritage Information Centre to set protection priorities for rare species, similar to those described in Section 4.5.2 above for vegetation communities. Provincial rankings (S-ranks), are not legal designations such as those used to define the various protection statuses of species at risk, they are only intended to consider factors within the political boundaries of Ontario that might influence a particular species abundance, distribution or population trend.

Based on the guidance provided in the Significant Wildlife Habitat Ecoregion Criterion Schedules (MNRF, 2015), when a plant or animal element occurrence is recorded for any

species with an S-rank of S1 (extremely rare), S2 (very rare), S3 (rare to uncommon) or SH (historically present), the corresponding vegetation ecosite is considered to provide *candidate* habitat for species of conservation concern and further consideration within the EIS is warranted.

According to the NHIC databased accessed on June 5, 2019, one species of conservation concern has been identified within the broader study area, a plant species known as, bud-tipped bryum (*Bryum gemmiparum*). Bud-tipped bryum is a moss species, last observed in the area on October 28, 1991. Bud-tipped bryum was not observed on-site during the site investigation, as such it is not discussed or evaluated further in this EIS.

In addition to individual species of conservation concern habitats, the Significant Wildlife Habitat Ecoregion Criterion Schedules (MNR, 2015), provides four general habitat types known to support a wide range of species of conservation concern in Ontario. The four general habitat types for Ecoregion 6E-11 are provided in Table B.4 in Appendix B, including a brief rationale as to why they are or are not considered further in this EIS.

Based on the results of the habitat for species of conservation concern screening presented in Table B.4, no habitat for species of conservation concern occur on-site. As such, habitat for species of conservation concern is not discussed or evaluated further in this EIS.

4.5.5 Animal Movement Corridors

Animal movement corridors are elongated areas used by wildlife to move from one habitat to another and allow for the seasonal migration of animals (MNR, 2015). The Significant Wildlife Habitat Ecoregion Criterion Schedules for Ecoregion 6E-11 (MNR, 2015), identifies two types of animal movement corridor: amphibian movement corridors and deer movement corridors. As per guidance presented in MNR, 2015, animal movement corridors should only be identified as significant wildlife habitat when a *confirmed or candidate* significant wildlife habitat has been identified by the MNR district office or by the regional planning authority. Table B.5 in Appendix B presents the two types of animal movement corridors, including a brief description of the rationale as to why they are or are not assessed further in this EIS.

Based on the results of the animal movement corridors screening presented in Table B.5, no animal movement corridors occur on-site. As such, animal movement corridors are not discussed or evaluated further in this EIS.

4.6 Fish Habitat

The protection of fish and fish habitat is a federal responsibility and is administered by the Department of Fisheries and Oceans Canada (DFO). Fish habitat as defined in the Fisheries Act (Canada, 1985) means, “spawning grounds and nursery, rearing food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.”

When development is unable to avoid or mitigate serious harm to fish from typical project impacts such as temperature change, sedimentation, infilling, reduction of nutrient and food supply, etc., an authorization under the Fisheries Act is required for the project to proceed.

As discussed in Section 3.3 no surface water features or fish habitat occurs on-site or adjacent to site. As such, fish habitat is not discussed or evaluated further in this EIS.

4.7 Species at Risk

The probability of occurrence for species at risk to occur on-site and within the broader study area was determined through the desktop review stage of this EIS, as described in Section 2.1, and through the site specific surveys conducted as part of this EIS, outlined in Section 2.2.

Table B.6 in Appendix B, provides a summary of all Species at Risk (SAR) which were determined to have the potential to occur on-site or within the broader study area, their protection status under the provincial Endangered Species Act (Ontario, 2007), their regional distribution, their probability of occurrence and a brief rationale of that probability. Endangered or threatened SAR determined to have a moderate or high potential to occur on-site or within the broader study area are discussed further in the subsections below.

4.7.1 Butternut

Butternut (*Juglans cinerea*) is a short lived, medium-sized tree that can reach up to 30 m in height. Butternut is easily recognized by its compound leaves, made up of 11 to 17 leaflets, each 9 to 15 centimetres long, arranged in a feather-like pattern. The bark is grey and smooth in younger trees, and becomes rigid with age. Butternut is a member of the walnut family and produces edible nuts in the fall.

The range of Butternut trees in Canada extends from southern Ontario into southern Quebec and New Brunswick (COSEWIC, 2003). It is shade intolerant and prefers riparian habitats or sites with rich, moist, well-drained loams and gravels with limestone origin. Common associates for Butternut include: basswood, black cherry, beech, black walnut, elm, hickory, oak, red maple, sugar maple, yellow poplar, white ash and yellow birch.

During the preliminary site investigation, no butternut trees were observed within the vegetation communities on-site. Furthermore, no Butternut observation records were provided by the NHIC for the single 1 km grid square that encompasses the site. As no butternut were documented on site no mitigation measures are provided in Section 7 in relation to butternut.

5.0 PROPOSED PROJECT

The proposed project assessed for potential impacts on the natural heritage features present within the broader study area includes the creation of approximately 75 residential townhomes in the village of Merrickville.

The townhomes will be constructed on six existing property parcels, with new public access roads included in construction. Each townhome will be 2-storeys, approximately 150 m² in size, include internal single vehicle garage and single-wide driveway. Each townhome will have full municipal services. The conceptual development plan is illustrated on Figure 4, Conceptual Development Plan.

Future components of the proposed project considered in the impact assessment presented in Section 6 include: tree clearing and vegetation grubbing, fill placement and elevation grading, laneway and roadway construction, installation of municipal services, excavation and pouring of foundations, construction of townhomes and general landscaping activities. No storm water infrastructure has been proposed as part of this project.

The timeline of the proposed project, from lot creation to completion of residential construction is currently unknown. For the purpose of assessing impacts to natural heritage features, it is assumed in this EIS that the draft plan approval and zoning amendment will happen in the near-term and will not result in any physical alterations to the natural environment of the site and the broader study area.

6.0 CUMULATIVE IMPACTS

The primary project supported by this scoped EIS is a plan of subdivision and zoning bylaw amendment for an existing 2.05 ha property for potential residential development in the future. In order to provide a meaningful impact assessment for future development, it is assumed that future development may include the following activities: tree clearing, site grading and/or fill placement, excavation of foundations, construction of 75 freehold townhomes, installation of municipal services and general landscaping on each of the lots. Potential cumulative impacts associated with the above activities are discussed below.

Cumulative impacts with the creation of approximately 75 freehold townhouses, and new public roadways would include an increase in storm water generation, disturbance to the natural soil mantle, and a loss of mixed thicket and forest vegetation and associated habitat.

Cumulative impacts associated with run-off, erosion and sedimentation to off-site surface water features are not anticipated as a result of the proposed project due to the relatively flat topography of the site and the absence of surface water features on-site and in the adjacent area.

Cumulative impacts to the natural environment at the site or adjacent natural features by increased human presence and disturbance, and increased noise generation are expected to be minimal given the current urban-residential setting surrounding the site.

By implementing the recommendations outlined in Section 7, no negative impacts are anticipated to occur to wildlife following any potential future residential development. A revised EIS should be completed to assess impacts to natural heritage features on-site and provide suitable mitigation to negate impacts posed by development, once specific development details are known.

7.0 RECOMMENDATIONS

The following avoidance and mitigation measures have been recommended by GEMTEC for consideration to guide a future revised Environmental Impact Statement in accordance with the provincial Policy Statement should future development be considered at the site.

7.1 Wildlife and Species at Risk

Prior to any development, three breeding bird surveys should be conducted at the site to document the potential presence of avian species at risk, and to evaluate the potential presence of significant wildlife habitat.

8.0 CONCLUSIONS

The proposed project supported by this scoped EIS is the development of 75 freehold townhomes on an existing 2.05 ha property.

Based on the fact that no physical alterations to the site are anticipated as part of the zoning amendment, no impacts to natural heritage features or their functions are anticipated as part of this project.

Following review of the information pertaining to the natural heritage features of the site, it is the opinion on GEMTEC that no negative impacts are anticipated to occur to any natural heritage features on-site and adjacent to site as a result of the proposed development.

9.0 LIMITATION OF LIABILITY

This report and the work referred to within it have been undertaken by GEMTEC Consulting Engineers and Scientists Ltd (GEMTEC), and prepared for the Parkview Homes c/o Holzman Consultants Inc. and is intended for the exclusive use of the Parkview Homes c/o Holzman Consultants Inc.. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and the Parkview Homes c/o Holzman Consultants Inc.. Nothing in this report is intended to provide a legal opinion.

The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared.

This report has been prepared for the application noted and it is based, in part, on visual observations made at the site, all as described in the report. Unless otherwise stated, the findings contained in this report cannot be extrapolated or extended to previous or future site conditions, portions of the site that were unavailable for direct investigation

Should new information become available during future work or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions presented herein.

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact our office.

Sincerely,



Taylor Warrington, B.Sc.
Biologist



Drew Paulusse, B.Sc.
Senior Biologist

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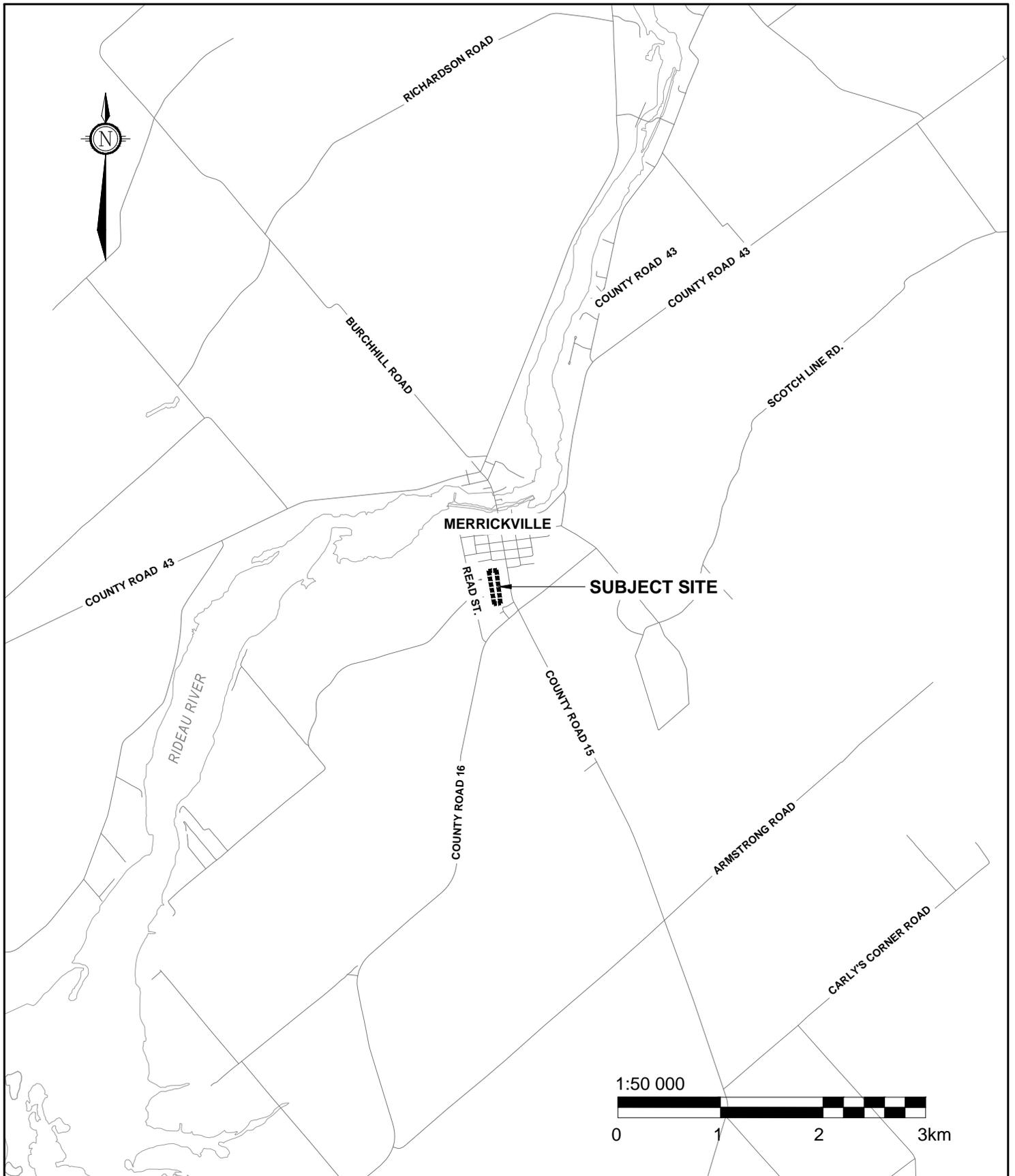
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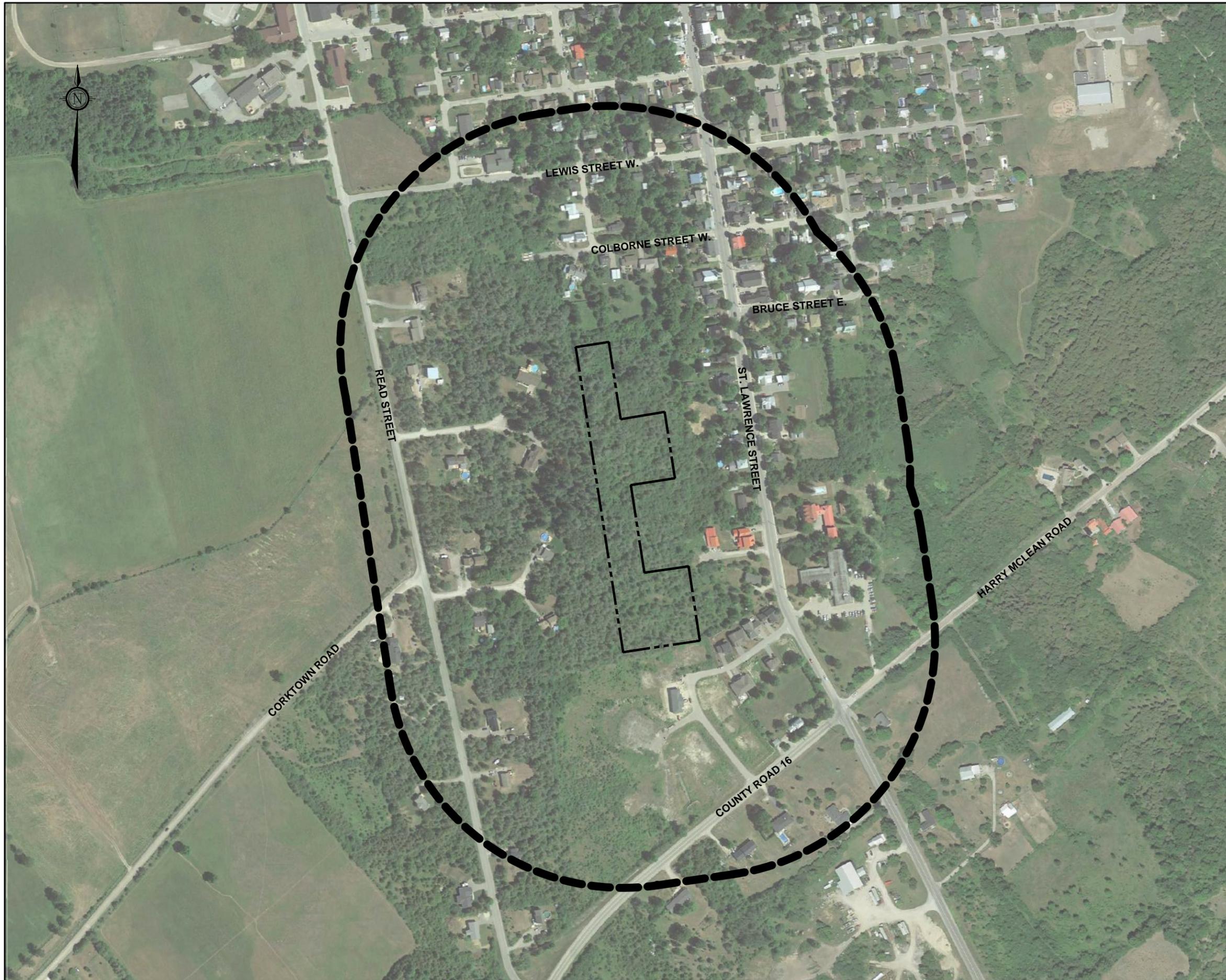
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 GEMTEC CONSULTING ENGINEERS AND SCIENTISTS 32 Steacie Drive, Ottawa, ON K2K 2A9 T: (613) 836-1422 www.gemtec.ca ottawa@gemtec.ca	Project SCOPED ENVIRONMENTAL IMPACT STATEMENT PLAN OF SUBDIVISION, PART OF LOTS 9 & 10, CONCESSION A, VILLAGE OF MERRICKVILLE, ON		Drawing SITE LOCATION		
	Drwn By P.C.	Chkd By T.W.	Date JUNE 2019	Project No. 64908.02	Revision No. 0



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE STUDY AREA



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Drawing SITE LAYOUT

Client PARKVIEW HOMES c/o
HOLZMAN CONSULTANTS INC.

Project 64908.02		SCOPED ENVIROMENTAL IMPACT STATEMENT PART OF LOTS 9 & 10, CON. A VILLAGE OF MERRICKVILLE, ON
Drwn by	Chkd by	
P.C.	T.W.	

Date	JUNE 2019	Rev.	0	FIGURE 2
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LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE STUDY AREA

VEGETATION:

- THM MIXED THICKET
- FOM MIXED FOREST
- THD DECIDUOUS THICKET



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AND SCIENTISTS

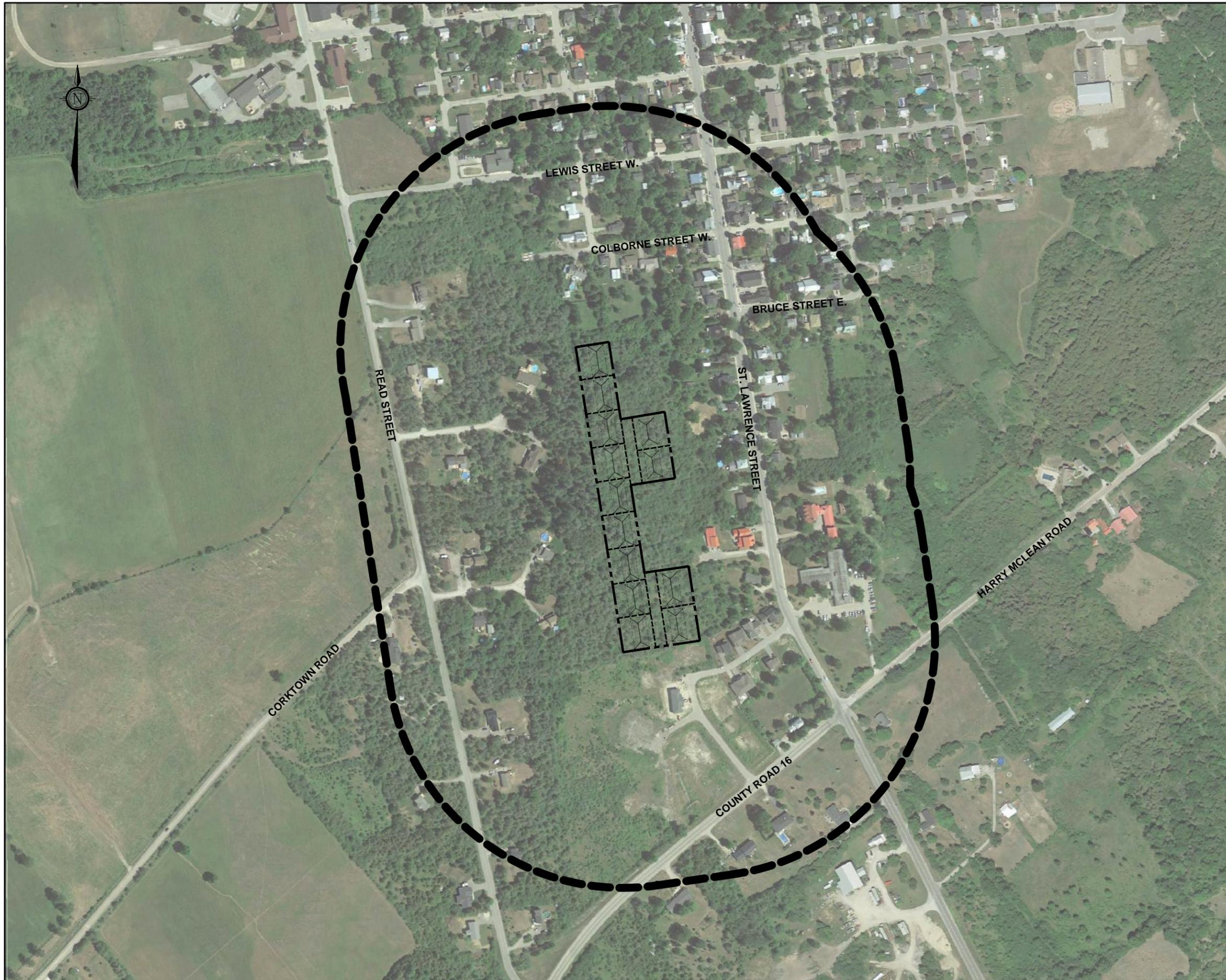
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Drawing
VEGETATION COMMUNITIES

Client **PARKVIEW HOMES c/o
HOLZMAN CONSULTANTS INC.**

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Drwn by	P.C.	
Chkd by	T.W.	

Date	JUNE 2019	Rev.	0	FIGURE 3
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LEGEND

-  APPROXIMATE PROPERTY BOUNDARY
-  APPROXIMATE STUDY AREA
-  CONCEPTUAL DEVELOPMENT PLAN
-  PROPOSED 5-6 UNIT TOWNHOME




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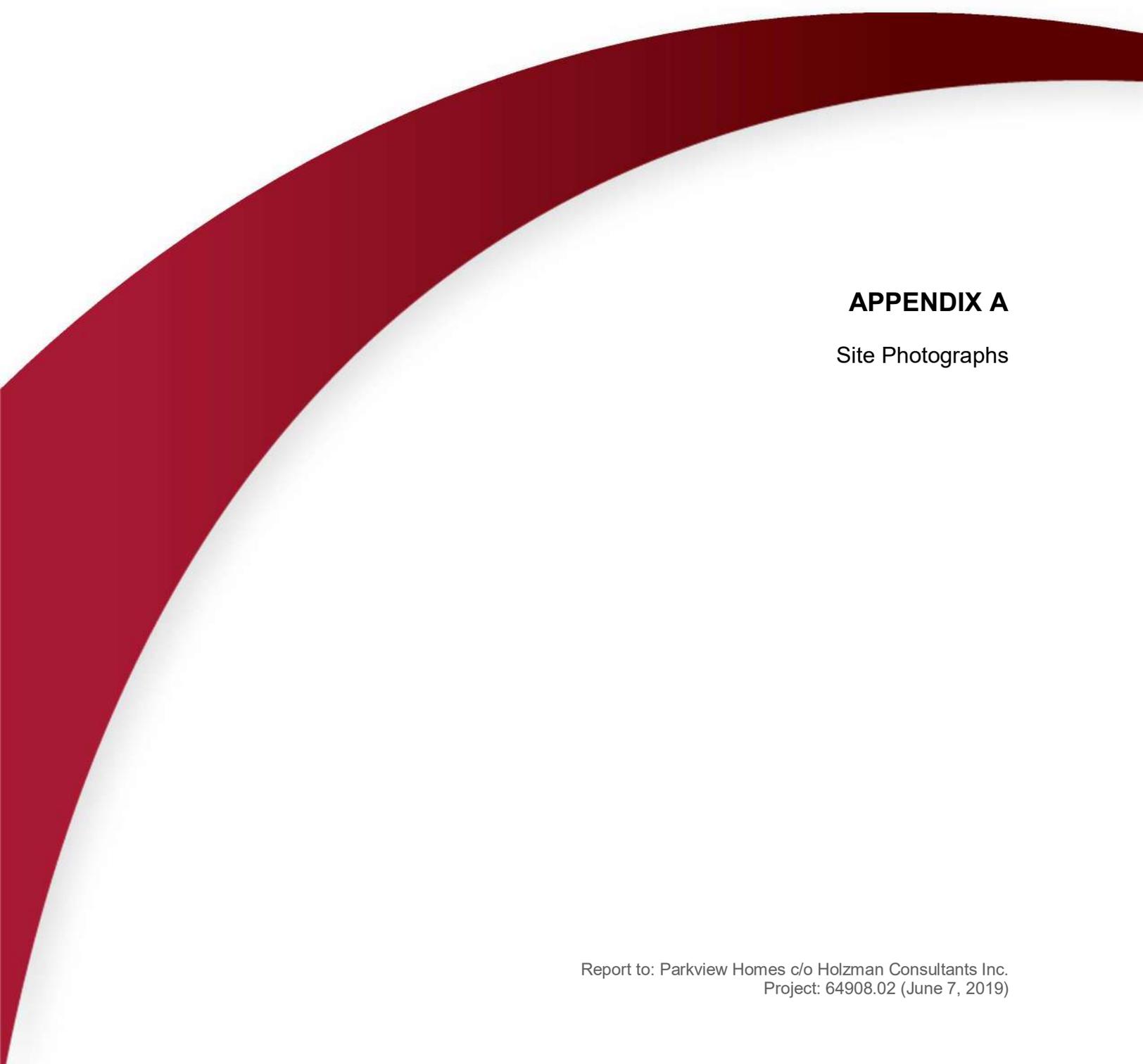
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Drawing
CONCEPTUAL DEVELOPMENT PLAN

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Drwn by	Chkd by	
P.C.	T.W.	

Date	Rev.	FIGURE 4
JUNE 2019	0	



APPENDIX A

Site Photographs



MIXED THICKET



MIXED THICKET



MIXED THICKET



MIXED THICKET



MIXED WOODLAND



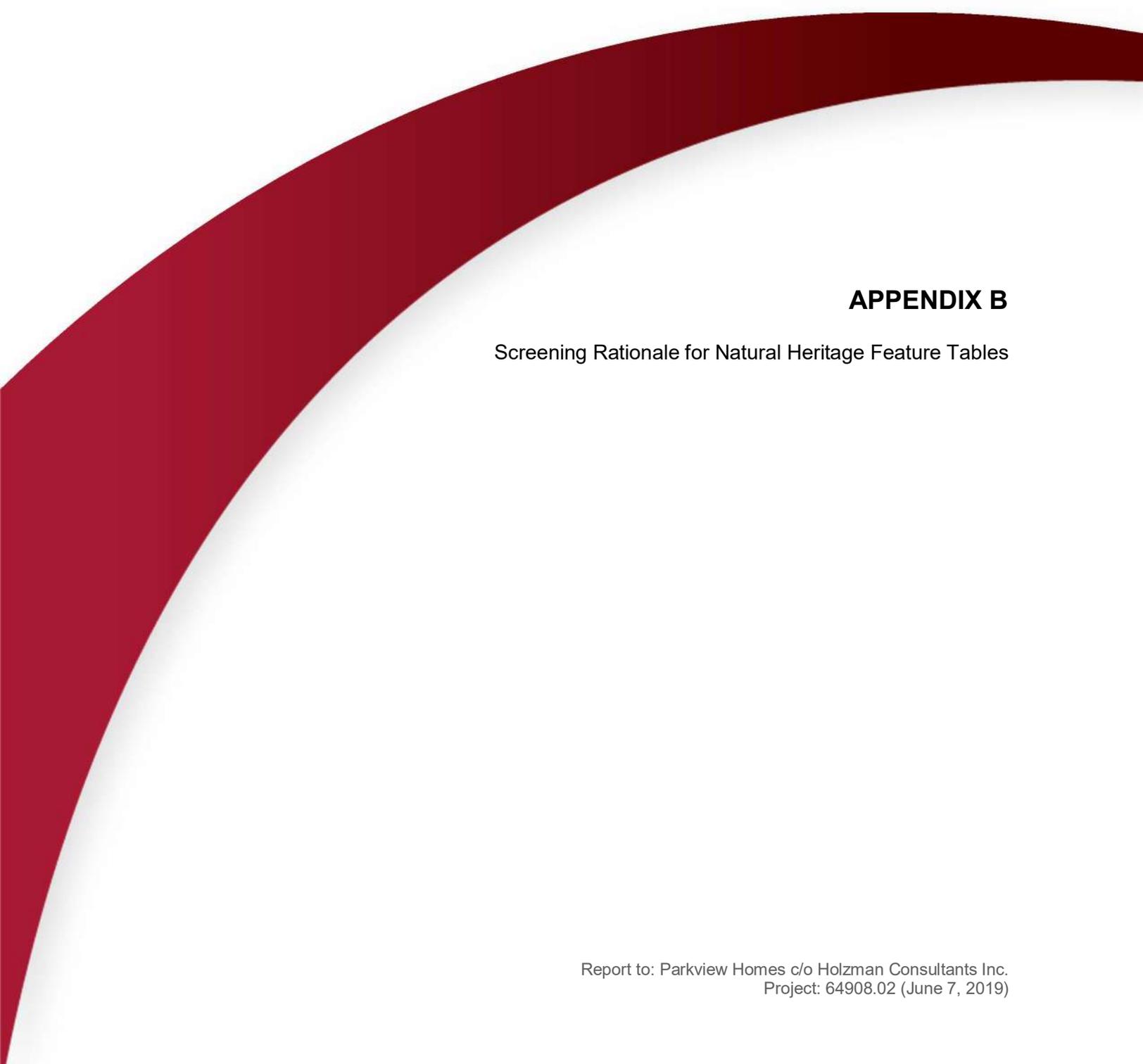
MIXED WOODLAND



MIXED FOREST ALONG REAR LOT LINE



MIXED FOREST ALONG REAR LOT LINE



APPENDIX B

Screening Rationale for Natural Heritage Feature Tables

**TABLE B.1
SCREENING RATIONALE FOR SIGNIFICANT WOODLANDS**

Woodland Criteria	Further Considered in EIS	Rationale
Woodland Size	No	Contiguous woodland habitat identified on-site and in the broader study area measure greater 16.7 ha, less than the minimum size requirement of 20 ha.
Ecological Functions		
a) Woodland Interior	No	Woodlands on-site and adjacent to site do not meet minimum size requirements.
b) Proximity	No	Woodlands on-site and adjacent to site do not meet minimum size requirements.
c) Linkages	No	Woodlands on-site and adjacent to site do not meet minimum size requirements.
d) Water Protection	No	Woodlands on-site and adjacent to site do not meet minimum size requirements.
e) Diversity	No	Woodlands on-site and adjacent to site do not meet minimum size requirements.
Uncommon Characteristics	No	The woodlands on-site do not have a unique species composition, vegetation communities with a tanking of S1, S2, or S3, or a mature size structure.
Economical and Social Functional Values	No	The woodlands on-site do not contain high productivity in terms of economically valuable products, high social value such as recreational use, identified historical cultural, nor educational value.

**TABLE B.2
SCREENING RATIONALE FOR HABITATS OF SEASONAL CONCENTRATION AREAS**

Wildlife Habitat	Further Considered in EIS	Rationale
Winter Deer Yard	No	No significant stands of mast producing trees, no large coniferous forest stands on-site to provide protection and cover from winter elements.
Colonial Bird Nesting Habitat	No	No suitable habitat located on-site or within the study area to support colonial bird nesting (i.e. no eroding banks, cliff faces, sandy hills, swamps, rocky islands/peninsula, etc.).
Waterfowl Stopover and Staging Areas	No	No suitable habitat located on-site or within the study area to meet the defining use criteria for waterfowl use (i.e. no fields with sheet water).
Shorebird Migratory Stopover Area	No	Shorebird stopover sites are typically well-known and have a long history of use. The site does not contain suitable shoreline habitat for shorebird foraging.
Raptor Wintering Area	No	The site does not contain a mix of forest and upland habitat of adequate size (> 20 ha) to meet the defining use criteria for raptor wintering.
Bat Hibernacula	No	Cave and crevice habitat is not present on-site or within the study area.
Bat Maternity Colonies	No	Woodlands on-site do not contain trees of sufficient size to support bat maternity roost colonies.
Turtle Wintering Area	No	No suitable wetlands or waterbodies are present to support turtle wintering and provide protection from winter conditions.
Reptile Hibernaculum	No	No structures such as large rock piles, bedrock outcrops, cervices or other karstic features have been identified on-site.
Migratory Butterfly Stopover Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.
Landbird Migratory Stopover Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.

**TABLE B.3
SCREENING RATIONALE FOR SPECIALIZED WILDLIFE HABITATS**

Specialized Wildlife Habitat	Further Considered in EIS	Rationale
Waterfowl Nesting Area	No	The site lacks suitable upland habitat adjacent to wetlands necessary to support waterfowl nesting.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	The site is located greater than 120 m from any habitat which could support foraging bald eagle and osprey. Nesting sites for these species are uncommon in Ecoregion 6E (SWHECS, 2012).
Woodland Nesting Raptor Habitat	No	Woodland raptor nesting may occur in any ecosite, however species preference is mature forest stands, larger than 30 ha, with more than 10 ha of interior habitat located more than 200 m from the forest edge. While contiguous forest stands > 30 ha occur on-site, interior forest habitat with a 200 m buffer does not meet minimum size requirements to provide woodland area-sensitive bird breeding habitat.
Turtle Nesting Habitat	No	Vegetation and soil on-site does not provide suitable nesting habitat for turtles.
Seeps and Springs	No	No seeps or spring were identified on-site during the preliminary site investigation.
Woodland Amphibian Breeding Habitat	No	No suitable woodland habitat has been identified on-site to support woodland amphibian breeding habitat.
Wetland Amphibian Breeding Habitat	No	No suitable wetland habitat has been identified on-site to support wetland amphibian breeding habitat.
Woodland Area-Sensitive Bird Breeding habitat	No	Woodland area-sensitive breeding birds require interior forest habitat located more than 200 m from the forest edge in forest stands, larger than 30 ha in size. While contiguous forest stands >30 ha occur on-site, interior forest habitat with a 200 m buffer does not meet minimum size requirements to provide woodland area-sensitive bird breeding habitat.

**TABLE B.4
SCREENING RATIONALE FOR HABITAT FOR SPECIES OF CONSERVATION CONCERN**

General Habitats of Species of Conservation Concern	Further Considered in EIS	Rationale
Marsh Breeding Bird Habitat	No	No suitable wetlands have been identified on-site or adjacent to site to support marsh breeding bird habitat.
Open Country Breeding Bird Habitat	No	No suitable meadow habitat has been identified on-site or adjacent to site to support open country breeding bird habitat.
Shrub/Early Successional Breeding Bird Habitat	No	Candidate early successional breeding bird habitat typically includes fallow fields transitioning to early successional forest habitats that are > 10 ha but have not been actively used for farming. Due to the size of the thicket on-site (<3 ha), the thicket habitat on-site is not considered SWH for shrub/early successional breeding bird habitat.
Terrestrial Crayfish Habitat	No	Terrestrial crayfish are only found within southwestern Ontario (MNRF, 2012).

**TABLE B.5
SCREENING RATIONALE FOR ANIMAL MOVEMENT CORRIDORS**

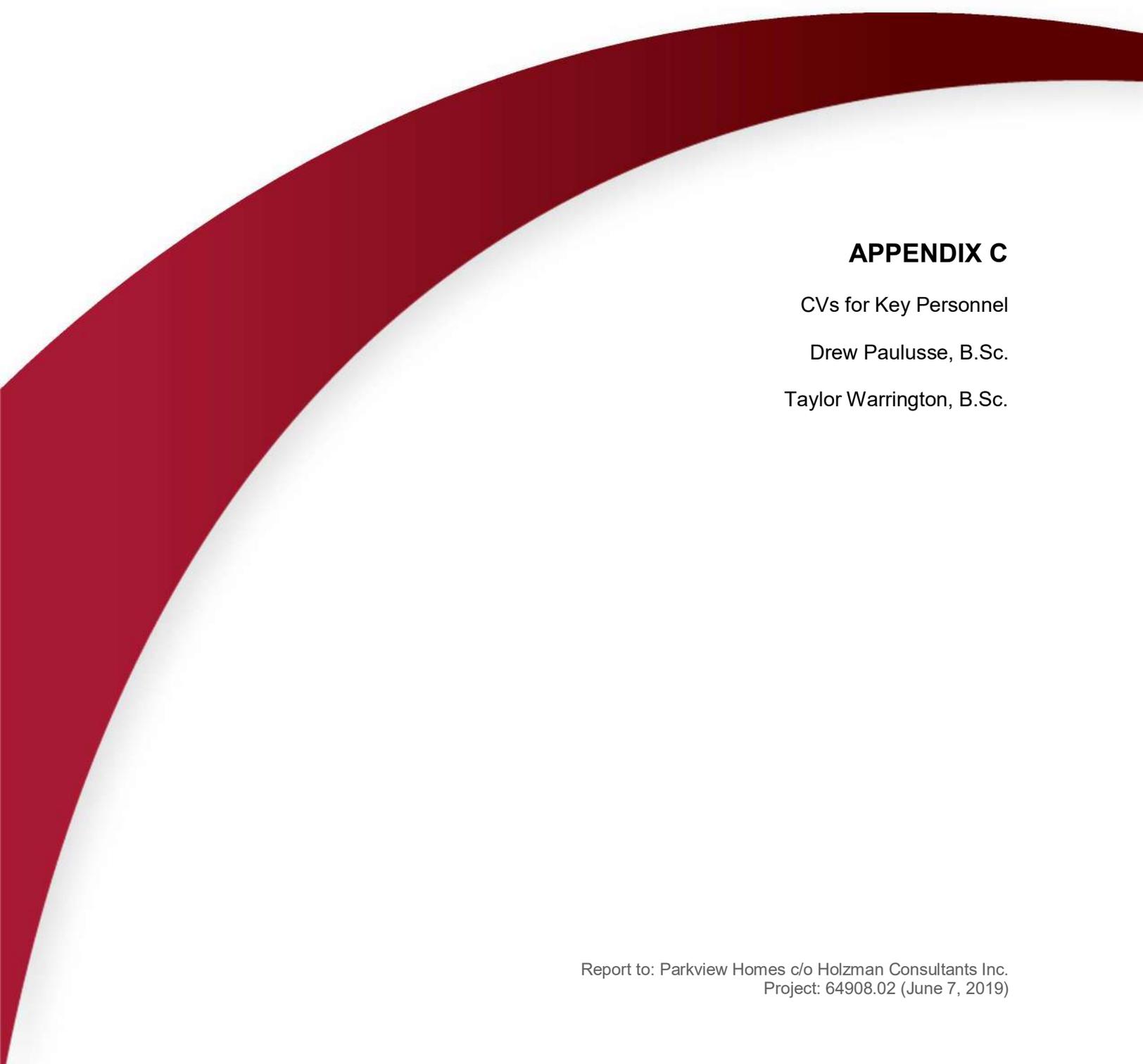
Animal Movement Corridor	Further Considered in EIS	Rationale
Amphibian Movement Corridor	No	No wetland or woodland amphibian breeding habitat has been identified on-site or within the study area.
Deer Movement Corridor	No	No deer wintering habitat has been identified on-site, and deer movement corridors have not been identified on county official plans.

**TABLE B.6
SCREENING RATIONALE FOR HABITAT FOR SPECIES OF CONSERVATION CONCERN**

Species	ESA Status	Regional Distribution	Habitat Use	Probability of Occurrence On-Site or Within Study Area
Avian				
Bobolink	Threatened	Widespread in the Ottawa region, confirmed and probable nests found in 39 or 40 local atlas squares during recent OBBA.	Nests in dense tall grass fields and meadows, low tolerance for woody vegetation.	Low
Eastern Meadowlark	Threatened	Sporadic occurrences in Ottawa region, more common in rural areas with pasture or fallow fields.	Nests and forages in dense tall grass fields and meadows, higher tolerance to woody vegetation.	Low
Eastern Whip-poor-will	Threatened	Primary breeding range located east, west and south of the Precambrian shield. 7 probable and 10 possible nests in recent OBBA. Critical habitat tentatively identified in 4 squares in western Ottawa.	Nests on the ground in open deciduous or mixed woodlands with little underbrush, and bedrock outcrops.	Low
Eastern Wood-pewee	Special Concern	4 possible, 15 probable and 19 confirmed nests in recent OBBA for Ottawa region.	Woodland species, often found near clearings and edges.	Moderate
Mammalian				
Eastern small-footed Myotis	Endangered	Rare throughout its range. Historical records in downtown Ottawa.	Roosts in rock crevices, barns and sheds. Overwinters in abandoned mines. Summer habitats are poorly understood in Ontario, elsewhere prefers to roost in open, sunny rocky habitat and occasionally in buildings (Humphrey, 2017).	Low
Little Brown Myotis	Endangered	Various sites in central and western parts of the Ottawa area. No critical habitat (hibernacula) identified in Ottawa to date.	Maternal colonies known to use buildings, may also roost in trees during summer. Affinity towards anthropogenic structures for summer roosting habitat and exhibit high site fidelity (Environment Canada, 2015).	Low
Northern myotis (Northern Long-eared Bat)	Endangered	Historical records in downtown Ottawa, more recently in sites to east (Orleans, Clarence-Rockland). No critical habitat (hibernacula) identified in Ottawa to date. Ottawa and region is at southern most limit of range.	Occurs throughout eastern North America in associated with Boreal forests. Roosts mainly in trees, occasionally anthropogenic structures during summer (Environment Canada, 2015). Overwinters in caves and abandoned mines.	Low
Tri-colored Bat	Endangered	Provincially Uncommon, only 26 documented occurrences in Ontario from pre-1980 to present (MNR, 2016). Unknown distribution in Ottawa; historical records from sites in urban Ottawa and Lanark County.	Roosts in trees, rock crevices and occasionally buildings during summer. Overwinters in caves and mines.	Low
Reptilian				
Blanding's Turtle	Threatened	Provincial Range extends from Manitoulin Island south and east. Scattered occurrence records in central Ontario. Scattered through throughout Ottawa, with numerous sites in western half of city. Critical habitat present in Ottawa.	Inhabits quiet lakes, streams and wetlands with abundant emergent vegetation. Frequently occurs in adjacent upland forests.	Low
Eastern Musk Turtle	Special Concern	Scattered occurrence throughout Ottawa region.	Permanent ponds, lakes, marshes and rivers.	Low
Northern Map Turtle	Special Concern	In the Ottawa region found in the Ottawa River, Rideau River (Burrit's Rapids area) and South Nation River.	Highly aquatic species, found only in lakes and large rivers.	Low
Snapping Turtle	Special Concern	Widespread and abundant in Ottawa and surrounding region.	Highly aquatic species, found in a wide variety of permanent ponds, lakes, marshes and rivers.	Low
Plants				
American Ginseng	Endangered	Various locations throughout Ottawa, critical habitat broadly identified in Ottawa area.	Grows in rich, moist but well-drained and relatively mature, deciduous woodlands dominated by sugar maple, white ash and American basswood.	Low
Butternut	Endangered	Range is confined to eastern and southern Ontario. Widespread in Ottawa and region.	Inhabits a wide range of habitats including upland and lowland deciduous and mixed forests.	Moderate

TABLE B.6
SCREENING RATIONALE FOR SPECIES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	Regional Distribution	Rationale
Avian			
Bobolink	Threatened	Widespread in the Ottawa region, confirmed and probable nests found in 39 or 40 local atlas squares during recent OBBA.	Potentially suitable grassland habitat adjacent to site in agricultural fields but no suitable grassland habitat is present on-site to support nesting or foraging Bobolink.
Eastern Meadowlark	Threatened	Sporadic occurrences in Ottawa region, more common in rural areas with pasture or fallow fields.	Potentially suitable grassland habitat adjacent to site in agricultural fields but no suitable grassland habitat is present on-site to support nesting or foraging Eastern Meadowlark.
Eastern Whip-poor-will	Threatened	Primary breeding range located east, west and south of the Precambrian shield. 7 probable and 10 possible nests in recent OBBA. Critical habitat tentatively identified in 4 squares in western Ottawa.	Woodlands on-site do not provide suitable defining use criteria for eastern whip-poor-will. The underbrush and subcanopy layers on-site are quite full and no bedrock outcrops were observed on-site.
Eastern Wood-pewee	Special Concern	4 possible, 15 probable and 19 confirmed nests in recent OBBA for Ottawa region.	Woodlands on-site may provide suitable conditions for eastern wood-pewee.
Mammalian			
Eastern small-footed Myotis	Endangered	Rare throughout its range. Historical records in downtown Ottawa.	No anthropogenic structures on-site for roosting along with lack of woodlands suitable in size, age, structure on-site to provide maternity roost habitat and in combination with species relative rarity.
Little Brown Myotis	Endangered	Various sites in central and western parts of the Ottawa area. No critical habitat (hibernacula) identified in Ottawa to date.	No anthropogenic structures on-site for roosting along with lack of woodlands suitable in size, age, structure on-site to provide maternity roost habitat and in combination with species relative rarity.
Northern myotis (Northern Long-eared Bat)	Endangered	Historical records in downtown Ottawa, more recently in sites to east (Orleans, Clarence-Rockland). No critical habitat (hibernacula) identified in Ottawa to date. Ottawa and region is at southern most limit of range.	No anthropogenic structures on-site for roosting along with lack of woodlands suitable in size, age, structure on-site to provide maternity roost habitat and in combination with species relative rarity.
Tri-colored Bat	Endangered	Provincially Uncommon, only 26 documented occurrences in Ontario from pre-1980 to present (MNR, 2016). Unknown distribution in Ottawa; historical records from sites in urban Ottawa and Lanark County.	No anthropogenic structures on-site for roosting along with lack of woodlands suitable in size, age, structure on-site to provide maternity roost habitat and in combination with species relative rarity.
Reptilian			
Blanding's Turtle	Threatened	Provincial Range extends from Manitoulin Island south and east. Scattered occurrence records in central Ontario. Scattered through throughout Ottawa, with numerous sites in western half of city. Critical habitat present in Ottawa.	Based on data obtained from the Herp Atlas (Ontario Nature, 2019), Blanding's turtle have been observed 22 times between 2018 and 1980 within the 10 km ² that encompasses the site. However no critical habitat (permanent bogs, fens, marshes or swamps with standing water) has been identified on-site. Any potential for Blanding's turtles to occur on-site are likely to be associated migrant turtles moving between summer and winter habitat.
Eastern Musk Turtle	Special Concern	Scattered occurrence throughout Ottawa region.	Based on data obtained from the Herp Atlas (Ontario Nature, 2019) musk turtle have been observed eight times between 2011 and 2003 within the 10 km ² that encompasses the site. However, as the species is primarily aquatic, and no surface water features have been identified on-site the probability for musk turtle to occur on-site is low.
Northern Map Turtle	Special Concern	In the Ottawa region found in the Ottawa River, Rideau River (Burrit's Rapids area) and South Nation River.	Based on data obtained from the Herp Atlas (Ontario Nature, 2019) map turtle have been observed two times in 2008 within the 10 km ² that encompasses the site. However, the species is highly aquatic and as no surface water features were identified on-site, map turtles are unlikely to inhabit the site.
Snapping Turtle	Special Concern	Widespread and abundant in Ottawa and surrounding region.	Based on data obtained from the Herp Atlas (Ontario Nature, 2019) snapping turtle have been observed 44 times between 1964 and 2018 within the 10 km ² that encompasses the site. However, the species is highly aquatic and as no surface water features were identified on-site, snapping turtles are unlikely to inhabit the site.
Plants			
American Ginseng	Endangered	Various locations throughout Ottawa, critical habitat broadly identified in Ottawa area.	Woodlands on-site are mixed and are unlikely to support habitat requirements for American ginseng growth.
Butternut	Endangered	Range is confined to eastern and southern Ontario. Widespread in Ottawa and region.	Large portions of the site are open and in a regenerative state.



APPENDIX C

CVs for Key Personnel

Drew Paulusse, B.Sc.

Taylor Warrington, B.Sc.



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Drew Paulusse, B.Sc.

Senior Biologist / Manager of Environmental Services

Mr. Paulusse has over 12 years of experience in the environmental consulting industry, providing private industry and municipal and federal government clients with cost effective solutions to manage environmental constraints associated with land development proposals and infrastructure projects. Mr. Paulusse's expertise, as it relates to land development proposals and infrastructure projects is field assessment and regulatory permitting associated with species at risk, fish habitat and wetlands.

Education

- B.Sc., Biology, Trent University, 2007
- Environmental Technician, Fleming College, 2004

Professional Experience

2018-date	GEMTEC Consulting Engineers and Scientists Limited <i>Manager of Environmental Services</i>	Ottawa, Ontario
2011-2018	Geofirma Engineering Limited <i>Senior Biologist</i>	Ottawa, Ontario
2007-2011	INTERA Engineering Limited <i>Biologist</i>	Ottawa, Ontario
2007	Canadian Wildlife Service, Environment Canada <i>Wetland Conservation Officer</i>	Burlington, Ontario
2005	Centre for Inland Waters, Environment Canada <i>Junior Marine Technologist</i>	Burlington, Ontario

Professional Affiliations and Technical Training

- Canadian Society of Environmental Biologists
- Ontario Association for Impact Assessment
- MTO/DFO/MNRF Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings. Ministry of Transportation. 2018
- Ontario Wetland Evaluation System Certification Course. Ministry of Natural Resources and Forestry. 2017
- Headwater Drainage Feature Assessment Training Course. Rideau Valley Conservation Authority. 2017





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- Ecological Land Classification System Certification Course. Ministry of Natural Resources and Forestry. 2015
- Ontario Benthic Biomonitoring Network Certification Course. Ministry of Environment, Conservation and Parks. 2011

Project Highlights

- ***DFO Self-Assessment and Preparation of Tender Special Provisions, Osceola Culvert Replacement, County of Renfrew, Ontario (2019):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat and species at risk, and completion of a DFO self-assessment. Work included aquatic habitat assessments, pathway of effects evaluation, culvert design recommendations and reporting.
- ***Environmental Compliance Monitoring, Petrie Island Causeway Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Causeway Rehabilitation Project within the Ottawa River. Work included species at risk surveys, fish salvage, exclusion fence inspection, monitoring of sediment and erosion control measures, turbidity monitoring, regulatory agency consultation and weekly reporting.
- ***Environmental Compliance Monitoring, Airport Parkway Culvert Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with Ministry of Natural Resources and Conservation Authority permit conditions. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures and weekly reporting.
- ***Species at Risk Assessment, National Capital Commission, Gatineau, Quebec (2018):*** Project manager responsible for the completion of avian species at risk surveys to determine the presence or absence of chimney swift and barn swallows at a contaminated site. Work was undertaken to support an Ecological Risk Assessment.
- ***Fish Habitat Assessment, Various Culvert Replacements, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat at three culvert crossings in rural Ottawa. Work included aquatic habitat assessments, pathway of effects evaluation, culvert design recommendations and reporting.
- ***Environment Effects Evaluation Assessment, Britannia Wall Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for completing a comprehensive tree inventory, wetland boundary delineation, significant wildlife habitat assessment and evaluation of effects associated with the rehabilitation of the Britannia Wall, a 600-metre-long community flood protection structure.





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- ***Environmental Compliance Monitoring, Petrie Island Beach Head Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Beach Head Rehabilitation Project within the Ottawa River. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures, and reporting.
- ***Environmental Compliance Monitoring, Carp Snow Dump, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for monitoring constructor compliance with a Ministry of Natural Resources overall benefit permit for blanding's turtle associated with the construction of the Carp Snow Dump. Work included weekly exclusion fence inspection and weekly reporting to the contract administrator.
- ***Fish Habitat Assessment, Little Bark Bay Properties, Barry's Bay, Ontario (2017):*** Project manager and technical lead responsible for the identification and evaluation of significance of fish habitat within and adjacent to a proposed plan of subdivision. Work included aquatic habitat assessments, pathway of effects evaluation, application of the Department of Fisheries and Oceans self-assessment process and reporting.
- ***Species at Risk and Migratory Bird Screening Assessment, City of Ottawa, New Edinburg Park Redevelopment Project, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the completion of a species at risk and migratory bird screening assessment to assist in bid tender package preparation for the re-development of New Edinburg Park. Work included a general habitat assessment, a probability of occurrence assessment, follow-up pre-construction surveys and reporting.
- ***Fish Habitat Assessment, Highway 417 Culvert Replacement Project, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat at two culvert crossings Ottawa. Work included aquatic habitat assessments, pathway of effects evaluation, application of the Department of Fisheries and Oceans self-assessment process and reporting.
- ***Fish Habitat and Headwater Drainage Feature Assessment, Private Landowner, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the completion of a two-season hydrological assessment of on-site water courses and assessment of fish habitat. Work completed in support of a permit required to develop an unopened road allowance.





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Taylor Warrington, B.Sc.

Junior Biologist

Ms. Warrington has 3 years of experience in the environmental consulting industry, providing private industry and municipal and federal government clients with cost effective solutions to manage environmental constraints associated with land development proposals and infrastructure projects.

Education

- B.Sc., Life Sciences, McMaster University, 2015
- Graduate Certificate, Ecosystem Restoration, Niagara College, 2016

Professional Experience

2019-date	GEMTEC Consulting Engineers and Scientists Limited <i>Junior Biologist</i>	Ottawa, Ontario
2017-2019	Geofirma Engineering Limited <i>Junior Biologist/Scientist</i>	Ottawa, Ontario
2016	Dillon Consulting <i>Junior Field Biologist</i>	Little Current, Ontario
2014	McMaster University <i>Laboratory-Research Assistant; URBAN Project Coordinator</i>	Hamilton, Ontario

Professional Affiliations and Technical Training

- Ontario Reptile and Amphibian Survey Course. Blazing Star Environmental, Natural Resource Solutions Inc., and Ontario Nature. 2018
- Ontario Benthic Biomonitoring Network Certification Course. Ministry of Environment, Conservation and Parks. 2016

Project Highlights

- **Surface Water Impact Assessment, Green Lake Development, Barry's Bay, Ontario (2019):** Biologist responsible for the completion of a surface water impact assessment supporting two residential lot severances. Work included a review of existing data on Green Lake, application of the provincial lakeshore capacity model, mitigation measure development and reporting.
- **Biological Inventory, Ontario Power Generation Incorporated, Bath, Ontario (2018):** Field Biologist responsible for conducting a three-season inventory of avian and amphibian species at the Lennox Provincially Significant Wetland. Work included conducting presence





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and abundance surveys following the Canadian Wildlife Service marsh monitoring protocol and Bird Studies Canada breeding bird surveys, statistical analysis of species data trends and reporting.

- ***Environmental Compliance Monitoring, Petrie Island Causeway Rehabilitation Project, Ottawa, Ontario (2018):*** Field biologist responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Causeway Rehabilitation Project within the Ottawa River. Work included species at risk surveys, fish salvage, exclusion fence inspection, monitoring of sediment and erosion control measures, turbidity monitoring, regulatory agency consultation and weekly reporting.
- ***Environmental Impact Statement, Code Drive Development, Smiths Falls, Ontario (2018):*** Field Biologist responsible for the completion of an Environmental Impact Statement in support of a severance application for the creation of eight residential lots within a significant woodland and adjacent to a large local wetland. Work included targeted surveys for species at risk, breeding amphibians and marsh birds, impact assessment, development of lot-specific mitigation measures and agency consultations.
- ***Tier I and II Natural Environment Report, Crain's Construction, Ottawa, Ontario (2018):*** Field biologist responsible for completing an inventory of site flora and fauna, completion of species at risk surveys, regulatory agency consultation, impact assessment and reporting.
- ***Species at Risk Assessment, National Capital Commission, Gatineau, Quebec (2018):*** Field biologist responsible for the completion of avian species at risk surveys to determine the presence or absence of chimney swift and barn swallows at a contaminated site. Work was undertaken to support an Ecological Risk Assessment.
- ***Environment Effects Evaluation Assessment, Britannia Wall Rehabilitation Project, Ottawa, Ontario (2018):*** Field Biologist responsible for completing a comprehensive tree inventory, wetland boundary delineation, significant wildlife habitat assessment and evaluation of effects associated with the rehabilitation of the Britannia Wall, a 600-metre-long community flood protection structure.
- ***Environmental Compliance Monitoring, Petrie Island Beach Head Rehabilitation Project, Ottawa, Ontario (2018):*** Field biologist responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Beach Head Rehabilitation Project within the Ottawa River. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures, and reporting.



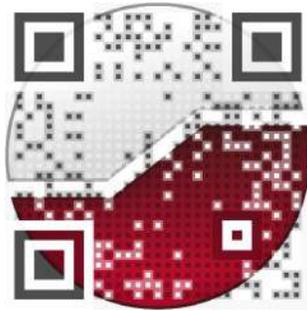


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- ***Natural Heritage Inventory and Environmental Impact Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Field biologist responsible for the completion of a Natural Heritage Inventory and Environmental Impact Assessment completed in support of a 54-lot condominium development located in an environmentally sensitive area. Work included wetland boundary delineation, identification of significant wildlife habitat, application of the significant wildlife habitat mitigation support tool, completion of a two-year survey of site flora and fauna, and impact assessments.
- ***Detailed Quantitative Ecological Risk Assessment, National Capital Commission, Gatineau, Quebec (2017 to 2018):*** Field biologist for the completion of a Detailed Quantitative Ecological Risk Assessment completed for a former landfill property located adjacent to the Ottawa River. Work included aquatic habitat assessment, species at risk surveys, and terrestrial wildlife surveys.
- ***Environmental Compliance Monitoring, Carp Snow Dump, Ottawa, Ontario (2017):*** Field biologist responsible for monitoring constructor compliance with a Ministry of Natural Resources overall benefit permit for blanding's turtle associated with the construction of the Carp Snow Dump. Work included weekly exclusion fence inspection and weekly reporting to the contract administrator.
- ***Species at Risk and Migratory Bird Screening Assessment, City of Ottawa, New Edinburg Park Redevelopment Project, Ottawa, Ontario (2017):*** Field biologist responsible for the completion of a species at risk and migratory bird screening assessment to assist in bid tender package preparation for the re-development of New Edinburg Park. Work included a general habitat assessment, a probability of occurrence assessment, follow-up pre-construction surveys and reporting.
- ***Post-Construction Windfarm Monitoring for Wildlife Impacts, Little Current, Ontario (2016):*** Field biologist responsible for the completion of post-construction monitoring of a windfarm for avian and mammalian fatalities. Work included fatality surveys, vegetation surveys, and wildlife scavenger surveys.
- ***Long-term Changes in Ecosystem Health, Frenchman's Bay, Pickering, Ontario (2015):*** Field biologist responsible for evaluating the long-term changes in ecosystem health of Frenchman's Bay. Work included: data review, analysis of data trends, watershed and land-use mapping, digitization of wetland vegetation cover and analysis of changes over time, reporting and symposium presentation.



experience • knowledge • integrity



civil	civil
geotechnical	géotechnique
environmental	environnementale
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité

