Norwood Park Subdivision - Phase 4

Part of Lot 19, Concession 8, Norwood, Ontario
Environmental Impact Assessment

DPH Developments Inc.

December 7, 2021

→ **The Power of Commitment**

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Executive summary

GHD was retained to conduct an Environmental Impact Assessment to support Phase 4 of a proposed draft plan of subdivision in the Norwood Park development, located at Part Lot 19, Concession 8, Township of Asphodel-Norwood, County of Peterborough. GHD had completed an EIS for Phase 3 of this subdivision previously.

The subdivision build out has been completed in Phases 1, 2 and most of 3, south of the current study area. The proposed subdivision is primarily an agricultural field with fencerows. There are no wetlands, forested areas or watercourses present in the study area or within 120 metres based on our mapping. ORCA in the pre-consultation meeting minutes stated the same but requested an EIA as part of the application.

GHD completed detailed biological inventories of the site to conduct vegetation surveys and look for incidental birds and wildlife on the property, as well as a search for potential Significant Wildlife Habitat on site.

Most of the property is agricultural hayfield,but contained vegetated fencerows with some mature trees. Two Species at Risk birds were identified during surveys, eastern meadowlark and barn swallow. Habitat for only the eastern meadowlark was identified on site. Due to the presence of the meadowlark, a permit from the MECP will be required to carry out the development of these lands.

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1. Introduction

1.1 Background

GHD was retained to conduct an Environmental Impact Assessment to support Phase 4 of a proposed draft plan of subdivision in the Norwood Park development, located at Part Lot 19, Concession 8, Township of Asphodel-Norwood, County of Peterborough. GHD had completed an EIS for Phase 3 of this subdivision previously.

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1.2 Location and Study Area

The property is located on the north side of the Village of Norwood. The property fronts onto Albine Street and is known as Part Lot 19, Concession 8, Township of Asphodel- Norwood, County of Peterborough. The property is bounded by agricultural fields on all sides. The entire property is composed of active agricultural fields and surrounded by fencerows, the only natural vegetation on the site (Figure 1)

1.3 Scope and Limitations

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

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

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

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

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

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

1.4 Study Rationale

The following section identifies federal, provincial and other regulatory legislation, policies, official plans (OP) and OP amendments that are applicable to the study area and the immediate vicinity, including the policies that triggered the study. These documents may refer to Species at Risk, natural features, wildlife habitat and other features relevant to this study.

1.4.1 Federal Legislation

1.4.1.1 Migratory Birds Convention Act, 1994 (S.C. 1994, c.22)

The purpose of the Migratory Birds Convention Act (MBCA 1994) is to implement the Convention by protecting and conserving migratory birds — as populations and individual birds — and their nests.

No work is permitted to proceed that would result in the destruction of active nests (i.e., nests with eggs or young birds), or the wounding or killing of bird species protected under the MBCA and/or Regulations under that Act.

1.4.2 Provincial Legislation

1.4.2.1 Endangered Species Act, 2007

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

1. To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge;
2. To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk;
3. To promote stewardship activities to assist in the protection and recovery of species that are at risk. 2007, c. 6, s. 1. (Government of Ontario, 2018)

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

Regulations made under this act include: Ontario Regulation 230/08 and 242/08.

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

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

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

1.4.2.2 Provincial Policy Statement, 2020

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

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

2.1.4 Development and site alteration shall not be permitted in:

significant wetlands in Ecoregions 5E, 6E and 7E1; and

significant coastal wetlands.

2.1.5 Development and site alteration shall not be permitted in:

significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;

significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);

significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);

significant wildlife habitat;

significant areas of natural and scientific interest; and

coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

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

1.4.3 Local and Other Regulatory Bodies

1.4.3.1 County of Peterborough/Township of Asphodel-Norwood

Schedule A2-1 Land Use Plan Urban Component designated the property as Rural.

The County of Peterborough permits low density residential within this designation. A zoning amendment is required to accommodate a residential subdivision on these lands.

Section 4.1.2.1 outlines the requirements of Environmental Impact Assessments:

Environmental impact assessment will be:

- *Prepared by professionals, at the applicant's cost unless determined otherwise by the local municipality, and approved by the local municipality;*
- *Circulated to the Count for review, and to any other agency the local municipality deems appropriate;*
- *Subject to independent peer review at the applicant's cost if deemed appropriate by the County;*
- *Approved by the County as well as the local municipality and the Conservation Authority where one exists. If the study determines that the lands adjacent to a significant natural heritage feature are lesser in extent than the natural heritage screening area as prescribed below, development may proceed;*
- *Prepared in accordance with watershed or subwatershed plans where they exist;*
- *Prepared using as a guide the Natural Heritage Reference Manual, June 1999 as amended, and supporting technical manuals produced by the Ministry of Natural Resources;*
-

Environmental Impact assessments will include:

- *A description of the proposal and statement of rationale for the undertaking;*
- *A description of the existing land use (s) on site and adjacent lands;*
- *The land use designation on site and adjacent lands, as identified by the County and local municipal Official Plans;*
- *A description of alternative development proposals for the site as well as the environmental impacts of the alternatives;*
- *A comprehensive description of the proposal including its direction and indirect effect on the environment and considering both the advantages and disadvantages of the proposal;*
- *An identification of environmental constraint areas;*

- *An environmental inventory of the area under development consideration (plant life, land-based and aquatic wildlife, wetlands, natural landforms, surface waters, hydrogeological features);*
- *A statement of environmental and ecological significance of the area affected by the proposed development;*
- *A statement on how the development will establish or facilitate the establishment of linkages between natural areas within the watershed and adjacent watersheds and how these linkages will contribute to the preservation and enhancement of the natural areas;*
- *A detailed description of mitigating effects;*
- *Any additional information requested by the local municipality;*
- *An assessment of options for servicing the development with full municipal or communal water and sewage services as well as the environmental impacts of the servicing options.*

1.4.3.2 Otonabee Region Conservation Authority and Ontario Regulation 167/06

The Conservation Authority whose jurisdiction the study area falls under is Otonabee Region Ontario Conservation Authority. Under the Conservation Authorities Act, Ontario Regulation 319/09, *Regulation of Development Interference with Wetlands and Alterations to Shorelines and Watercourses* is applicable. Specifically, under this regulation, ORCA is required to: *Prohibit, regulate or provide permission for straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream, watercourse or changing or interfering with a wetland. Prohibit or regulate or provide permission for development if the control of flooding, erosion, dynamic beaches, pollution or the conservation of land may be affected by the development.*

1.5 Other Resources Referenced

Prior to field surveys, background information for the study area and surrounding lands from a variety of sources were reviewed to provide context for the setting and sensitivity of the site. Background information sources include:

1.5.1 Data Sources

- Aerial imagery
- MNRF Land Information Ontario (LIO) GIS database mapping, GHD GIS database and the Natural Heritage Information Centre database (NHIC) Make-a-map GIS website, 2021).
- Ontario Breeding Bird Atlas data (Bird Studies Canada (BSC) 2001-2005 field data)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2018)

1.5.2 Literature and Resources

- Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E. Peterborough, 38pp. (OMNRF, 2015)
- Natural Heritage Reference Manual (MNRF, 2010)

1.6 Description of Development

The proposed development is for the construction of Phase 4 of a plan of subdivision which would include single family dwellings and townhomes. A total of 154 units are proposed with access from Albine Street. A storm water management pond will be constructed on the west side of the property. Refer to Appendix C the Site Plan.

1.7 Study Rationale

The main goals of this EIA report are: to confirm the boundaries of key natural features (e.g. woodlands and wetlands) in the study area; to identify the ecological function(s) of any features found; to determine whether any Species at Risk

and/or their habitats occur on the subject property; and, to recommend appropriate buffers (i.e., vegetation protection zone), mitigation measures and edge management techniques to prevent impacts of the development on Species at Risk, natural heritage features and their functions.

The following natural features are found on and/or adjacent to the study area.

- Fencerows
- Wildlife corridor / linkage function
- Potential habitat of Species At Risk (SAR)
- Possible butternut trees, cavity trees

The field studies included the collection of data on vegetation, breeding birds, wildlife, and Species at Risk.

2. Study Methods

2.1 General Approach

Our approach to preparation of the Environmental Impact Assessment consisted of three distinct phases. In the first phase, available background information on the site was reviewed, including recent air photography, relevant policies, land use and key natural features GIS mapping, MNRF GIS database mapping and Natural Heritage Information Centre (NHIC) database records.

The second phase consisted of site visits by our terrestrial and wetland biologists to collect new site-specific information and confirm the information obtained through the literature review. Surveys included:

- Botanical inventory and vegetation community mapping (according to the Ecological Land Classification for Southern Ontario);
- General surveys for wildlife (including amphibians, reptiles and mammals);
- Habitat assessments for wildlife including wildlife linkages;
- Assessments of the ecological function of natural features on site;
- Screening for presence of significant species and/or their habitat (including Species at Risk).

The third phase consisted of preparing an EIA report based upon both the literature review and any field surveys completed according to applicable legislation and policies (as outlined in Section 1.4). The EIA report is designed to identify natural heritage features, assess their functions, and provide recommendations to mitigate any potential impacts from the proposed development.

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

2.2 Site Study Methodology

2.2.1 Literature Review

Literature reviewed for the EIA included community mapping and other previously completed reports or natural heritage studies of the area. Aerial photos, key natural features GIS mapping (MNR 2008 – 2011) and Official Plan

schedules were examined. In addition, several other sources were contacted to complete the literature review. These sources included the Ontario Breeding Bird Atlas data (BSC, 2001-2005 field data), NDMNRF GIS database, GHD GIS database and the Natural Heritage Information Centre database (NHIC Make-a-map GIS website, 2021).

2.2.2 Physical Site Characteristics

Site characteristics were assessed during GHD's field visits. These included general documentation of existing disturbances, current usage, age of vegetation cover, access lanes, general topography and soils. The descriptions from other study team members and geotechnical reports are used where available to assist in describing natural features.

2.2.3 Biophysical Inventory

2.2.3.1 Vegetation

ELC Survey method

All vegetation encountered in the study area was inventoried during the site visits. Delineation and classification of the vegetation community types was based on the Ecological Land Classification for Southern Ontario, First Approximation (Lee et al., 1998). General notes on disturbance, topography, soil types, soil moisture and state of each community were also compiled. Wetland boundaries were confirmed in the field following the methodologies in the Ontario Wetland Evaluation System Southern Manual, Third Edition version 3.2 and updates (OMNRF, 2013).

While ELC surveys were being conducted, experienced biologists searched for rare, significant and/or unusual species. Whenever these species were found, their occurrence information was documented.

2.2.3.2 Birds

Area Searches

GHD staff members kept a record of any birds encountered while they were conducting other surveys on site (e.g., ELC surveys). The record included information about the type of bird, abundance and breeding behaviour (if evidence). Biologists kept records of any birds detected throughout the study area.

2.2.3.3 Other Wildlife

Wildlife Observations (Incidental)

Incidental observations of any wildlife species (e.g., amphibians, reptiles and mammals) encountered while surveyors were on site were recorded. Documentation included notes about the species detected, their location and the type of encounter (e.g., direct sightings and indirect evidence such as calls, tracks, scat, burrows, dens and browse).

2.2.3.4 Significant Wildlife Habitat (SWH)

SWH Site Assessment

Prior to site visits, GHD Biologists developed a list of candidate SWH features that may occur on the subject property (using available background information about the study area and the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E, 2015). During field visits, GHD Biologists determined whether these candidate SWH features were present or absent on site. If any candidate feature was present, additional information was collected. After analysing the field data, GHD considered the potential impacts from the proposed development on the identified SWH and identified mitigation measures to reduce these impacts.

2.2.3.5 Species at Risk

The Ontario Endangered Species Act (ESA) places the onus on developers to determine if Species at Risk (birds, snakes, trees, plants, fish) are present or absent in the study area through targeted in-season field surveys by a qualified biologist. A review of the Department of Fisheries and Oceans (DFO) SAR critical habitat mapping and NHIC Make a Map GIS website was completed to determine if there are records of SAR species in the study area or within 2 km.

3. Survey Results

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

3.1 Physical Site Characteristics

3.1.1 General Site Characteristics

The site is approximately 58 hectares and primarily comprised of agricultural fields (hay) with fencerows lining the perimeter of the property. The site was quite flat with and Albine Street to the south. Residential development was located south of Albine Street.

3.2 Biological Inventories

3.2.1 Vegetation

3.2.1.1 Introduction and Level of Effort

The vegetation communities were delineated within the study area by GHD biologists according to the methodologies outlined in Section 2. A summary of the level of effort and environmental conditions have been provided in Table 1.

Table 1 Vegetation Surveys – Level of Effort

Survey Date	Survey Type	Weather	Effort (person hours)
July 6, 2021	ELC	22°C, cloud cover 0/10, wind scale 1	1.5 x 2 biologists

3.2.1.2 ELC Code Descriptions

Three vegetation communities were identified within the study area. Each of the communities are described below and illustrated on Figure 1.

A total of 36 plant species were identified during field surveys. The dominant plant species in each community are described below and a complete plant list with latin names is found in Appendix A.

Community 1 Agricultural Hay Field (ELC Code – N/A)

Community is the largest community in the Study Area, comprising of agricultural hay fields. The ground cover is dominated by white bedstraw (*Galium molugo*), awnless brome grass (*Bromus inermi)*, red clover (*Trifolium pratense)*, timothy, cow vetch (*Vicia cracca)* and many other species often associated with hay fields.

LEGEND

- Site Limit
- Parcel Fabric
- Vegetation Community

CITATIONS

- Imagery: © County of Peterborough, 2018.

REVISION & WORK HISTORY

REV	BY	DATE	DESCRIPTION	REQUEST
0	W.P.	2021-11-02	Initial map creation.	C.D.T.

DATA DISCLAIMERS

- Produced by GHD Limited under Licence with the Ontario Ministry of Natural Resources and Forestry© Queen's Printer for Ontario, 2021(2020).

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 18N

SCALE
1 cm : 24 meters
0 10 20 30 40
Meters

DPH DEVELOPMENTS INC.
158 Albine Street, Norwood, ON
Pt Lot 19, Con 8, Geo. Township of Asphodel
Township of Asphodel-Norwood
County of Peterborough
Otonabee Region Conservation Authority

ENVIRONMENTAL IMPACT ASSESSMENT
NATURAL FEATURES & VEGETATION COMMUNITIES

Project No. **12560494**
Revision No.
Date **11/2/2021**

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FIGURE 1

Document Path: Q:\GIS\PROJECTS\12560000s\12560494\Layouts\202111_RPT001\12560494_202111_RPT001_GIS001 - Natural Features and Vegetation Communities.mxd
Date Saved: 11/2/2021 6:34:19 AM

Photo 1: Community 1 (Photo Date: July 6, 2021)

Community 2 Fencerow/Deciduous Forest (ELC Code: Fencerow/FOD)

Community 1 was identified as the three north- south fencerows that are located on the subject property. The fencerows varied in width, being slightly wider with more mature to over mature trees on the easternmost border of the property. Large sugar maples (*Acer saccharum*) and large-toothed aspen (*Populus grandidentata*) were identified here as well here with the largest tree, a sugar maple at 104 dbh and poplar at 65 dbh.

A diversity of tree species were identified in the fencerows including other species such as black cherry (*Prunus serotina*), white oak (*Quercus alba*) and American basswood (*Tilia americana)*.

A good diversity of herbaceous plants were also identified within the fencerows and included both disturbed site species and some woodland plants (mostly within eastern fencerow). These included wild sarsaparilla, bloodroot (*Aralia nudicaulis*), large-leaved aster (*Eurybia macrophylla*), Canada goldenrod (*Solidago canadensis*), and white trillium (*Trillium grandiflorum)*.

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Photo 2: Community 2 (Photo Date: July 6, 2021)

Community 3 Hedgerow (ELC Code N/A)

This community fronts Albine Street and is the smallest community on site. It is dominated by shrub species such as Tartarian honeysuckle and staghorn sumac, as well as a number of tree species noted in Community 2. These being: black cherry, American basswood, large-toothed aspen, white oak and sugar maple. Herbaceous plants include: awnless brome, bladder campion (*Silene vulgaris)*, creeping bellflower (*Campanula rapunculoides*), common milkweed (*Asclepias syriaca*) and timothy (*Phleum pratense)*.

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Photo 3: Community 3 (in distance) (Photo Date: June 3, 2021)

3.2.2 Birds

3.2.2.1 Introduction and Level of Effort

Birds were identified within the study by GHD biologists according to the methodologies outlined in Section 2.2.3.2. Surveys were conducted in conjunction with our ELC surveys. A summary of the level of effort and environmental conditions have been provided in Table 2.

Table 2 Bird Surveys – Level of Effort

Survey Date	Survey Type	Weather	Effort (person hours)
July 6, 2021	Area searches- Birds	22°C, cloud cover 0/10, wind scale 1	1.5 x 2 biologists

3.2.2.2 Incidental Observations

A total of 14 bird species were identified during ELC surveys on July 6, 2021. These species are typical of field and hedgerow habitats and include: eastern phoebe (*Sayornis phoebe)*, warbling vireo (*Vireo gilvus)*, barn swallow

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(*Hirundo rustica)*, field sparrow (*Spizella pusilla)*, rose-breasted grosbeak (*Pheucticus ludovicianus)* and eastern meadowlark (*Sturnella magna)*.

3.2.2.3 Other Wildlife

No other species of wildlife were identified during our field surveys.

3.3 Natural Features

3.3.1 Woodland/Fencerows

Fencerows with several large diameter, mature trees are identified and described in Section 3.2.1. Fencerows are not defined as significant woodlands and they are not connected to larger blocks of woodland off-site.

3.3.2 Significant Wildlife Habitat

3.3.2.1 SWH Site Assessment

The following candidate SWH were identified as having potential on the Severances: Bat Maternity Colonies, and Habitat for Special Concern and Rare Wildlife

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4. Discussion and Analysis

4.1 Species and Communities

4.1.1 Vegetation

None of the plants identified on site are considered significant at the national or provincial level (COSEWIC, 2021; SARA, 2021; COSSARO, 2021). Additionally, none of the plants identified on site are considered Regionally Rare (Oldham, 1998).

4.1.2 Birds

Two of the birds detected during GHD's breeding bird surveys are considered to be significant at the national or provincial level (COSEWIC 2021; SARA, 2021; COSSARO, 2021). These species, barn swallow and eastern meadowlark were identified while GHD was conducting ELC surveys. The barn swallow (threatened) was observed foraging over the property. No appropriate nesting habitat (barns or other open structures) was identified on site.

Five eastern meadowlark (threatened) were identified within Community 1, with 2 additional birds calling from within the west hedgerow (Community 2). At the time of ELC surveying, appropriate eastern meadowlark habitat (hay field) was present within Community 1.

Area sensitive species are bird species that require a minimum hectarage of suitable contiguous habitat to successfully breed. No area sensitive birds were identified during the site visit.

The Ontario Breeding Bird Atlas (OBBA) records for the 10km by 10km square (18TQ61) that overlaps the property identified twelve species at risk birds recorded in the general area, these included eastern whip-poor-will (*Antrostomus vociferus*), chimney swift (*Chaetura pelagica*), common nighthawk (*Chordeiles minor*), red-headed woodpecker (*Melanerpes erythrocephalus*), eastern wood-pewee (*Contopus virens*), bank swallow (*Riparia riparia*), barn swallow (*Hirundo rustica*), wood thrush (*Hylocichla mustelina*), Canada warbler (*Cardelina canadensis*), Cerulean warbler (*Setophaga cerulea*), grasshopper sparrow (*Ammodramus savannarum*) and bobolink (*Dolichonyx oryzivorus*). With the exception of bobolink and grasshopper sparrow, habitat for the other listed species was not present on the property due to the lack of wetlands, structures and forested tracts of land. Few cavity trees were observed in the west fencerow, which may present suitable nesting habitat for red-headed woodpeckers. Appropriate field habitat existed for bobolink and grasshopper sparrow, but neither of these species were identified during our surveys.

4.1.2.1 Other Wildlife

The Ontario Reptile and Amphibian Atlas (Ontario Nature, 2021) also has records of snapping turtle within the 10 km x 10 km square that overlaps the property (18TQ61). Other significant species listed in the atlas include: Northern map turtle, western chorus frog, Midland painted turtle. These observations are associated with larger natural features outside of the immediate study area such as the Ouse River and Norwood Mill Pond.

While no wildlife was observed using the property, it is possible that the treed fencerows are utilized by local wildlife as corridors. Few cavities were observed in the trees themselves, however there could potentially be mammals using these cavities such as squirrels or bats.

4.2 Natural Features

4.2.1 Significant Wildlife Habitat

In Provincial Policy Statement (2020) wildlife habitat is defined as, *"… areas of the natural environment where plants, animals, and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations."* These documents also state, "*specific wildlife habitats of concern may include areas where the species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory and non-migratory species."*

Significant Wildlife Habitat often occurs within other natural heritage features and areas covered by Policy 2.1 of the Provincial Policy statement (e.g., significant wetlands and significant woodlands). Therefore, it has been suggested that identification and evaluation of SWH is best undertaken after other natural heritage features have been identified (Natural Heritage Reference Manual, 2010).

GHD biologists analyzed the information collected from the ecological communities on the subject property using the criteria for Significant Wildlife Habitat in Ecoregion 6E (2015) and identified the following as having potential to occur on site: Bat Maternity Colonies, and Habitat for Special Concern and Rare Species.

Table 3 Criteria for Significant Wildlife Habitat

Wildlife Habitat	Wildlife Species	Candidate SWH and Confirmed Habitat Criteria		Confirmed SWH and Defining Criteria	Candidate Habitat found within the Study Area	Confirmed Habitat found within the Study Area
		ELC Ecosite Codes	Habitat Criteria			
Bat Maternity Colonies	Big Brown Bat Silver-haired bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	Maternity colonies can be found in tree cavities, vegetation and often in buildlings (buildings are not considered to be SWH). Maternity colonies located in Mature (dominant trees > 80yrs old) deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees • Female Bats prefer wildlife trees (snags) in early stages of decay, class 1-3 or class 1 or 2 • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21	Confirmed use by; >10 Big Brown Bats >5 Adult Female Silver-haired Bats	While some of the trees in the west fencerow were large DBH, there were few cavities and snags present.	Not confirmed

Wildlife Habitat	Wildlife Species	Candidate SWH and Confirmed Habitat Criteria		Confirmed SWH and Defining Criteria	Candidate Habitat found within the Study Area	Confirmed Habitat found within the Study Area
		ELC Ecosite Codes	Habitat Criteria			
			snags/ha are preferred			
Special Concern and Rare Wildlife Species	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre	All plant and animal element occurrences (EO) within a 1 or 10km grid.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or Provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites	Studies Confirm: Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable.	No Special Concern wildlife identified on site.	Not Confirmed

5. Impact Assessment and Recommendations

The following section provides a description of the predicted impacts that may result from the proposed development (Table 4). It also highlights key mitigation measures to be implemented to avoid and/or minimize adverse effects to the natural features within or near the project. A full list of mitigation measures has been provided in Section 7.0.

5.1 Species and Communities

5.1.1 Vegetation

As some natural vegetation (fencerows) do exist on the property, The central fencerow and parts of the east and west will be removed during site preparation and as part of the lot development and grading of the site. As the site also contains a large hydro transmission tower corridor and a setback from that infrastructure at the north end, the remaining parts of those fencerows will be retained.

No rare or threatened species of vegetation (butternut) were found on the property during GHD surveys.

Ideally, minimizing the loss of the mature trees along these fence rows would be beneficial both biologically and aesthetically. A tree preservation plan is recommended to determine if any trees can be retained, depending on final grades and excavation works. This would allow for the retention of some "backyard" trees. The recommendations section of this report includes mitigation measures to avoid cutting during vegetation during the breeding bird season (April 15 to August 15).

5.1.2 Birds and Wildlife

The removal of the treed fencerows would create some net loss of wildlife habitat including that of possible tree cavity nesting species. While not significant on their own, collectively, vegetated fence rows offer foraging and nesting habitat to many species of birds and mammals. Where possible, preserving the trees along these fence rows would be beneficial to local wildlife.

It is recommended that any trees on site not be cut during the peak breeding bird season (April 15th to August 15th) as per Environment Canada regulations.

5.1.3 Connectivity

Vegetated fencerows often provide corridors for the movement of wildlife between breeding and feeding areas and as such can be an important component of the biological landscape. While the existing fencerows on the perimeter of the property do not appear to offer significant opportunities for the movement of wildlife at present they may so in the future as more development and fragmentation of habitat occurs in local area. As mentioned above, preserving as much of these vegetative zones is encouraged. The hydro corridor is largely open field and some agricultural fields with fencerows. There may a more regional corridor along that line.

5.1.4 Species at Risk

The provincially and federally threatened eastern meadowlark and barn swallow was identified using the property. The barn swallow did not have habitat onsite, but the eastern meadowlark was actively utilizing the open fields.

Eastern meadowlark was identified during field surveys in Community 1, and birds were observed perching in the west fencerow. Community 1 presents ideal nesting habitat for eastern meadowlark at the time of our ELC survey, being open, unmown hayfield.

The proposed development will result in a loss of Category 1, 2 & 3 habitat. As a result, a permit and/or other authorization under the Endangered Species Act will be required. The Ministry of the Environment, Conservation and Parks (MECP) will be contacted for guidance. The loss of habitat and an appropriate off-site compensation site will be discussed with MECP. A condition of approval for the draft plan is recommended to ensure that appropriate permits are obtained from MECP and that the development is in compliance with the Endangered Species Act.

Eastern Meadowlark Habitat Categorization:

- Category 1: Nest and the area within 10 m of the nest
- Category 2: The area between 10 m and 100 m of the nest or centre of approximated defended territory
- Category 3: The area of continuous suitable habitat between 100 m and 300 m of the nest or approximated centre of defended territory

Table 4 Impact Assessment and Recommendation Summary Table

Feature or Function	Impact to Feature or Function	Mitigation	Residual Effect
Vegetation	Potential removal of trees	– Clearing of trees to be minimal and conducted outside of peak nesting season. (April 15th to August 15th. – Trees should be limbed instead of removed where possible. – Avoid removal of large diameter trees	Net loss of forest cover
Species at Risk – Eastern Meadowlark	Loss of Category 1, 2, and 3 habitat	– Permit from MECP required	Loss of habitat

6. Policies and Legislative Compliance

6.1 Federal Legislation

6.1.1 Migratory Birds Convention Act, 1994 (S.C. 1994, c.22)

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

6.2 Provincial Legislation

6.2.1 Endangered Species Act, 2007

Eastern meadowlark, a provincially Threatened species was identified on site during GHD field surveys.

In order to maintain compliance with Section 23.2 of the Endangered Species Act, a number of steps are required. These steps include:

- preparing a development plan in accordance with subsection 23.2(3) of the Act;
- submitting this plan to MECP;
- not carrying out any development activity that is likely to destroy the habitat of bobolink or eastern meadowlark between May 1 and July 31 of any year;
- upon receiving MECP approval, proceeding with development in accordance with the development plan;
- creating habitat within 12 months of the commencement of the activity.

GHD is able to prepare the necessary documentation and submit to the MECP for review and approval. This would include submission of an application under the Endangered Species Act.

6.2.2 The Provincial Policy Statement, 2020

The subject property does not contain any provincially coastal wetlands, valleylands, or ANSI's. As a result, Sections 2.1.4b) and 2.1.5 a) c) e) and f) of the Provincial Policy Statement would not apply. As habitat of threatened species has been identified in the study area, the following PPS Sections are applicable: 2.1.5 a, b, and d, 2.1.6, 2.1.7, and 2.1.8. Section 5 of this EIA report contain recommendations to be in compliance with the PPS.

6.3 Local and Other Regulatory Bodies

6.3.1 Count of Peterborough/Township of Asphodel-Norwood

This project complies with the County of Peterborough/Township of Asphodel-Norwood Official Plans. Mitigation measures are found in Sections 5 and 7 of this EIA.

6.3.2 Otonabee Region Conservation Authority and Ontario Regulation 167/06

ORCA may require a permit to be issued for fill or other works related to the construction of the site.

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7. Summary of Recommendations

7.1 General

1. The construction envelope must be clearly defined and delineated and a line be staked and clearly marked in the field prior to any development activities occurring on the site.
2. MECP must be consulted to obtain the required permissions/permits for eastern meadowlark as per the Endangered Species Act.
3. Obtain relevant permits from the ORCA.
4. Prior to any site preparation activities (e.g., grading, placement of fill) erosion and sediment control measures should be installed along the northern side of construction envelope to ensure sediment laden runoff does not enter interfere with adjacent vegetation or natural features. The silt fence should be inspected and maintained throughout the construction phase and remain in place until the soils are stabilized and re-vegetated.
5. No stockpiles, brush, stumps or other construction materials or vehicles are permitted outside of the construction envelope.
6. Minimize grading in the eastern portion of the study area so that natural contours of the land are maintained.
7. Any tree clearing required for construction access prior to construction will be completed outside the Breeding Bird timing window of April 15th to August 15th
8. Should any SAR be encountered during work related activities, or if there is potential to negatively impact SAR, or wildlife more generally, contact NDMNRF immediately for guidelines on how to proceed.
9. Create downspouts that spill out onto grassed or gravel surfaces off the roofs. This will convey the rainfall captured by the roof to the ground where it can infiltrate.

7.2 Sediment and Erosion Control

1. A heavy-duty reinforced silt fence and snow fence will be installed and maintained along development envelope boundary. This line should be surveyed and staked in the field prior to any site preparation activities.
2. All sediment and erosion control products will be selected for the site based on the manufacturer's product specifications. Product installation and maintenance will follow the manufactures guidelines.
3. All sediment and erosion control measures shall be inspected daily during the construction phase and periodically afterwards to ensure they are functioning properly. The sediment and erosion control measures must be maintained and upgraded as required. Sediment fence shall be checked regularly to ensure they are maintained and working properly. Accumulated silt and debris will be removed from the fence and site after every precipitation event.
4. Construction will be undertaken during normal weather conditions, to the extent possible, and will avoid large precipitation events to minimize the risk of sedimentation off-site.
5. If sediment and erosion control measures are not functioning, the construction supervisor shall order the work to be stopped. No further work shall be carried out until the construction methods and/or the sediment control plan is adjusted to address the sediment/erosion problem(s). Such occurrences should be document by the site inspector and provided to a qualified biologist.

8. Conclusion

This Environmental Impact Assessment was prepared to address potential environmental issues associated with an application to develop the subject property.

The property was mainly comprised of active agricultural fields (hay) with the fencerows around the perimeter of the property being the only natural vegetation on the site. Eastern meadowlark were identified on site and using the property and its hayfields. A permit from the MECP will be required to carry out the development of these lands.

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Appendix A

Plant Species by Community

APPENDIX A Plant Species by Community

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

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

Total: Number of communities where plant species was recorded
X : Plant species recorded

Common Name	*Scientific Name*	Total	COMMUNITY NUMBER		
			1	2	3
POPPY FAMILY	*PAPAVERACEAE*				
bloodroot	*Sanguinaria canadensis*	1		X	
BEECH FAMILY	*FAGACEAE*				
white oak	*Quercus alba*	1			X
bur oak	*Quercus macrocarpa*	1		X	
BIRCH FAMILY	*BETULACEAE*				
ironwood	*Ostrya virginiana*	1		X	
PINK FAMILY	*CARYOPHYLLACEAE*				
bladder campion	*Silene vulgaris*	2	X		X
LINDEN FAMILY	*TILIACEAE*				
American basswood	*Tilia americana*	2		X	X
WILLOW FAMILY	*SALICACEAE*				
large-toothed aspen	*Populus grandidentata*	2		X	X
GOOSEBERRY FAMILY	*GROSSULARIACEAE*				
prickly gooseberry	*Ribes cynosbati*	1		X	
ROSE FAMILY	*ROSACEAE*				
white avens	*Geum canadense*	1		X	
black cherry	*Prunus serotina*	1			X
PEA FAMILY	*FABACEAE*				
bird's-foot trefoil	*Lotus corniculatus*	2	X		X
black medick	*Medicago lupulina*	1	X		
red clover	*Trifolium pratense*	2	X		X
white clover	*Trifolium repens*	1	X		
cow vetch	*Vicia cracca*	2	X		X

Common Name	*Scientific Name*	Total	COMMUNITY NUMBER		
			1	2	3
GRAPE FAMILY	*VITACEAE*				
Virginia creeper	*Parthenocissus inserta*	1			X
wild grape	*Vitis riparia*	2	X		X
MAPLE FAMILY	*ACERACEAE*				
Manitoba maple	*Acer negundo*	1		X	
sugar maple	*Acer saccharum ssp.saccharum*	2		X	X
CASHEW FAMILY	*ANACARDIACEAE*				
western poison-ivy	*Rhus rydbergii*	1	X		
staghorn sumac	*Rhus typhina*	1			X
RUE FAMILY	*RUTACEAE*				
prickly ash	*Zanthoxylum americanum*	1		X	
GINSENG FAMILY	*ARALIACEAE*				
wild sarsaparilla	*Aralia nudicaulis*	1		X	
MILKWEED FAMILY	*ASCLEPIADACEAE*				
common milkweed	*Asclepias syriaca*	1			X
PLANTAIN FAMILY	*PLANTAGINACEAE*				
broad-leaved plantain	*Plantago major*	1	X		
HAREBELL FAMILY	*CAMPANULACEAE*				
creeping bellflower	*Campanula rapunculoides*	1			X
MADDER FAMILY	*RUBIACEAE*				
white bedstraw	*Galium mollugo*	2	X		X
HONEYSUCKLE FAMILY	*CAPRIFOLIACEAE*				
tartarian honeysuckle	*Lonicera tatarica*	2		X	X
ASTER FAMILY	*ASTERACEAE*				
large-leaved aster	*Eurybia macrophylla*	1		X	
Canada goldenrod	*Solidago canadensis*	2		X	X
SEDGE FAMILY	*CYPERACEAE*				
fox sedge	*Carex vulpinoidea*	1	X		
GRASS FAMILY	*POACEAE*				
awnless brome grass	*Bromus inermis ssp.inermis*	1			X
orchard grass	*Dactylis glomerata*	1	X		
timothy	*Phleum pratense*	2	X		X
LILY FAMILY	*LILIACEAE*				
false Solomon's seal	*Smilacina racemosa*	1		X	
white trillium	*Trillium grandiflorum*	1		X	
Total Number of Plant Species	36		13	16	19
			Number of Plant Species Per Community		

Appendix B

Bird Status Report

APPENDIX B Bird Status Report - Comprehensive

Bird species observed by GHD are listed in the order followed the American Ornithologists' Union (AOU) Check-list of North American birds (7th edition, 1999, 47th Supplement). Common and scientific nomenclature are based on those used by AOU. Breeding status and breeding evidence code are listed when observed. Any significant status for a species on national and provincial lists is displayed as well as those from relevant regional lists.

List Status :	**END - endangered**	A wildlife species facing imminent extirpation or extinction.
	END-R -endangered regulated	A wildlife species facing imminent extirpation or extinction in Ontario which has been regulated under Ontario's Endangered Species Act (ESA).
	THR - threatened	A wildlife species likely to become endangered if limiting factors are not reversed.
	SC - special concern	A wildlife species that may become threatened or an endangered species because of a combination of biological characteristics and identified threats.
	YES - Area Sensitive	A wildlife species that requires large areas of suitable habitat in order to sustain their population numbers.

*** Other status levels are not displayed**

List Sources:	**COSEWIC**	The Committee on the Status of Endangered Wildlife in Canada, May 2018.
	COSSARO	The Committee on the Status of Species at Risk in Ontario, June 2018.
	SARA	Species At Risk Act, Schedule 1, Government of Canada, 2018.
	Area Sensitive	Significant Wildlife Technical Guide, Appendix C, OMNR, Oct. 2000
	Region 6	Southern Ontario Wetland Evaluation Appendix 11B, Version 3.2, March 2013

Breeding Status: (Observed By NEA)

B -species observed in breeding season in suitable habitat with some evidence of breeding (confirmed, probable or possible as per Ontario Breeding Bird Atlas, 2002).
F -species observed in breeding season but no evidence of breeding or suitable nest sites available on the study site (includes flyovers, migrants and foraging colonial breeders).
M -species observed outside of breeding season for that species and in area outside of the known breeding range for that species.

This Environmental Impact Assessment was prepared to address potential environmental issues associated with an application to develop the subject property.

The property was mainly comprised of active agricultural fields (hay) with the fencerows around the perimeter of the property being the only natural vegetation on the site. Eastern meadowlark were identified on site and using the property and its hayfields. A permit from the MECP will be required to carry out the development of these lands.

Breeding Evidence Code: (Observed By NEA)

OBSERVED
X -species observed in its breeding season (no evidence of breeding).

POSSIBLE BREEDING
H -species observed in its breeding season in suitable nesting habitat
S -singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat

PROBABLE BREEDING
P -pair observed in their breeding season in suitable nesting habitat
T -permanent territory presumed through registration of territorial song on at least 2days, a week or more apart, at the same place
D -courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V -visiting probable nest site
A -agitated behaviour or anxiety calls of an adult
B -brood patch on adult female or cloacal protuberance on adult male
N -nest-building or excavation of nest hole

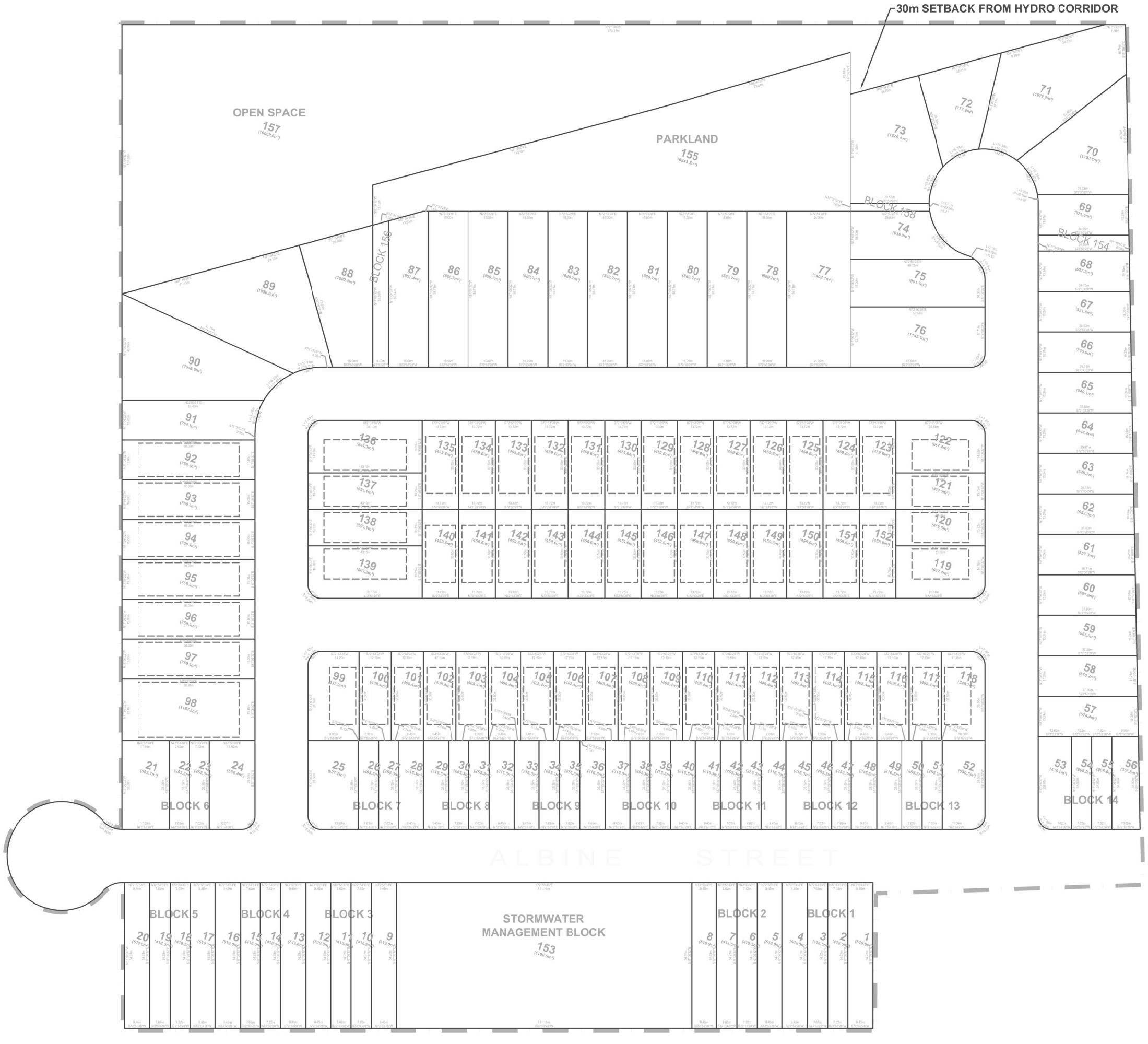
CONFIRMED BREEDING
DD -distraction display or injury feigning
NU -used nest or egg shell found (occupied or laid within the period of study)
FY -recently fledged young or downy young, including young incapable of sustained flight
AE -adults leaving or entering nest site in circumstances indicating occupied nest
FS -adult carrying fecal sac
CF -adult carrying food for young
NE -nest containing eggs
NY -nest with young seen or heard

SOURCE: Ontario Breeding Bird Atlas March 2001

AOU Code	Common Name	Scientific Name	Observed Breeding Status	Breed Evidence Code	COSEWIC	COSSARO	SARA	Area Sensitive	Region 6		
GBHE	Great Blue Heron	*Ardea herodias*	B	None				No			
RTHA	Red-tailed Hawk	*Buteo jamaicensis*	B	None				No			
EAPH	Eastern Phoebe	*Sayornis phoebe*	B	None				No			
EAKI	Eastern Kingbird	*Tyrannus tyrannus*	B	None				No			
WAVI	Warbling Vireo	*Vireo gilvus*	B	None				No			
BLJA	Blue Jay	*Cyanocitta cristata*	B	None				No			
BARS	Barn Swallow	*Hirundo rustica*	B	None	THR	THR	THR	No			
HOWR	House Wren	*Troglodytes aedon*	B	None				No			
BRTH	Brown Thrasher	*Toxostoma rufum*	B	None				No			
FISP	Field Sparrow	*Spizella pusilla*	B	None				No			
SOSP	Song Sparrow	*Melospiza melodia*	B	None				No			
RBGR	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	B	None				No			
EAME	Eastern Meadowlark	*Sturnella magna*	B	None	THR	THR	THR	No			
COGR	Common Grackle	*Quiscalus quiscula*	B	None				No			
TOTAL SPECIES OBSERVED:	**14**	**BREEDING SPECIES OBSERVED:**	**14**		**2**	**2**	**2**	**0**	**0**	**0**	**0**

Appendix C

Site Plan



NOTES:

SINGLE-FAMILY (50')

SINGLE-FAMILY (45')

SINGLE-FAMILY (40')

TOWNS (VARIES)

SWM / SPS BLOCK

TOWNSHIP BLOCK

PARKLAND

LOT SUMMARY:

SINGLE-FAMILY (50'):	40
SINGLE-FAMILY (45'):	34
SINGLE-FAMILY (40'):	20
TOWN HOMES (VARIES):	60
TOTAL LOTS:	154

AREA SUMMARY:

SINGLE-FAMILY (50'):	3.39 ha (24.2%)
SINGLE-FAMILY (45'):	1.71 ha (12.2%)
SINGLE-FAMILY (40'):	0.85 ha (6.1%)
TOWN HOMES (VARIES):	2.40 ha (17.1%)
MUNICIPAL LANDS:	3.43 ha (24.5%)
PARK LAND:	0.62 ha (4.4%)
OPEN SPACE:	1.61 ha (11.5%)
TOTAL AREA:	14.01 ha (100%)

No.	REVISION	BY	DATE
2.	REVISED PER CLIENT COMMENTS	JD	2021-04-20
1.	ISSUED FOR CLIENT REVIEW	JD	2021-04-09

ENGAGE ENGINEERING
www.engageengr.ca ◆ 171 King Street, Suite 120, Peterborough, ON ◆ Phone: (705) 755-0427

NORWOOD PARK PHASE 4 PRELIMINARY DESIGN

TOWNSHIP OF ASPHODEL-NORWOOD

PHASE 4 CONCEPT PLAN

NORWOOD, ONTARIO

DRAWN BY:	J.DUNN
DESIGNED BY:	J.DUNN
APPROVED BY:	P.HURLEY
DATE:	2021-03-30
SCALE:	1:750
STAMP:	

PROJECT NUMBER:	SHEET NAME:	SHEET:
20120	F1	1 of 1


GHD