Environmental Impact Study
Part of Lot 30, Concession 2
Township of East Luther Grand Valley
County of Dufferin
Update

Prepared for:
Coreseed Development

Prepared by:
Azimuth Environmental
Consulting, Inc.

May 2019

AEC 14-146

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

May 16, 2019 AEC 14-146

Coreseed Development
c/o Innovative Planning Solutions
150 Dunlop Street East, Suite 201
Barrie, Ontario
L4M 1B2

ATTN: Cameron Sellers, President and Director of Planning

Re: **Update Environmental Impact Study for a Scoped Environmental Impact Study (Coreseed Development), Part of Lot 30, Concession 2 Town of Grand Valley, County of Dufferin**

Dear Mr. Sellers:

Azimuth Environmental Consulting, Inc. has attended the property identified above to document natural heritage features. This Environmental Impact Study (EIS) forms a portion of the submission in order to acquire draft plan approval to permit a proposed residential subdivision in the Town of Grand Valley.

This report summarizes investigations undertaken in 2014 and 2015 and provides an assessment of the updated proposed development concept. Informational requirements and updates have been provided in order to address Grand River Conservation Authority review comments received subsequent to the 2016 EIS report. The study provides an assessment of the potential for the presence of Species at Risk and habitats of Endangered or Threatened Species, Significant Wildlife Habitat and other significant natural heritage features for the property and adjacent lands.

Mitigation measures have been recommended to avoid any potential impacts to key natural heritage features. Assuming appropriate mitigation measures and recommendations are taken, the proposed development is not expected to impact any identified features negatively. Thus, the proposed work is consistent with the policies set out within the 2014 Provincial Policy Statement and the regulations set out within Ontario's *Endangered Species Act*, 2007.

If you have any questions or concerns regarding this matter, please do not hesitate to contact me.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING INC.

Lisa Moran B.Sc.Env.
Terrestrial Ecologist

Table of Contents

List of Figures

List of Tables

List of Appendices

1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by Innovative Planning Solutions on behalf of Coreseed Development to prepare an Environmental Impact Study (EIS) for a property located on part of Lot 30, Concession 2, Town of Grand Valley, County of Dufferin (Figure 1). The EIS is a component of submission to the Town in order to obtain draft plan approval for the proposed subdivision development on the abovementioned property. A portion of the property and adjacent lands have been identified for Environmental Conservation according to the Town, which has triggered the need for the EIS.

2.0 BACKGROUND INFORMATION

A Plan of Subdivision Application was submitted to the Town of Grand Valley in May 2016. Part of this application package included the Environmental Impact Study (March 2016) prepared by Azimuth. The Grand River Conservation Authority (GRCA) had the opportunity to review the 2016 EIS and provided comments in a letter dated June 29, 2017 (Appendix A). Subsequent correspondence between Azimuth and GRCA followed. The resulting correspondence is appended to this report (Appendix A).

The Ministry of Natural Resources and Forestry (MNRF) reviewed the 2016 EIS report and provided comments in a letter dated July 28, 2016 (Appendix B). As of April 2019, the Ministry of Environment, Conservation and Parks (MECP) has assumed responsibility for matters related to the Endangered Species Act (ESA). Therefore, any future correspondence related to matters associated with Ontario's ESA should be with MECP.

The 2019 proposed development plan was updated in response to GRCA comments and the need to coordinate the plan with the adjacent "Thomasfield Mayberry Hill Phase 3B" future development lands located to the northwest of the property. The updated plan also takes into consideration the Town's Transportation Master Plan Study (2017).

Therefore the purpose of the updated EIS is to provide an impact assessment related to the updated development concept which includes a clear depiction of the proposed setbacks to the significant feature (*i.e.* wetland). No additional field work has been undertaken as a part of this update report, as confirmed by GRCA.

3.0 PLANNING CONTEXT

3.1 Provincial Policy Statement (2014)

The *Planning Act* requires that planning decisions shall be consistent with the Provincial Policy Statement, 2014 (PPS). According to the PPS development and site alteration shall not be permitted in:

- Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E, or in Ecoregions 5E, 6E and 7E, and,
- Significant coastal wetlands.

Similarly, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted within:

- *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 2.1.4(b)

Section 2.1.6 of the PPS states that development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements.

Section 2.1.7 of the PPS states that development and site alteration shall not be permitted in habitat of endangered and threatened species, except in accordance with provincial and federal requirements.

Furthermore, under Section 2.1.8 of the PPS, no development and site alteration will be permitted on lands adjacent to natural heritage features and areas defined above unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated there will be no negative impacts on the natural features and ecological functions.

It is ultimately the responsibility of the Province and/or the Municipality to designate areas identified within Section 2.1.4 of the PPS as significant. The Natural Heritage

Reference Manual (OMNR, 2010) and Ecoregion 6E Significant Wildlife Habitat Criterion Schedule were used to identify candidate features considered applicable to the property and adjacent lands.

3.2 Endangered Species Act (Ontario)

Ontario's *ESA*, 2007 provides regulatory protection to Endangered (END) and Threatened (THR) species, prohibiting harassment, harm and/or killing of individuals and destruction of their habitats. Habitat is broadly characterized within the ESA as the area prescribed by a regulation as the habitat of the species or an area on which the species depends, directly or indirectly, to carry on its life processes including reproduction, rearing of young, hibernation, migration or feeding.

The various schedules of the ESA identify Species at Risk in Ontario. Only species listed as END and THR receive protection from harm and destruction to habitat on which they depend.

Species listed under O.Reg. 230/08 of the ESA are addressed in this report.

3.3 Dufferin County Official Plan (2017 Office Consolidation)

According to Schedule B1: Community Structure and Land Use, the majority of the property is within the Urban Settlement Area of Grand Valley whereby policies outlined within Section 3.3.2 of the Official Plan (OP) area are applicable. The *urban settlement areas* function as the primary centres for growth, *development* and urban activities.

The remaining west portion of the property is within Countryside Area. Policies applicable to Countryside Area are found within Section 4.0 of the OP. Within the Countryside Area, the lands have been identified as Agricultural Area whereby policies outlined within section 4.2 of the County's OP apply. The OP requires that these lands will be protected for *agricultural uses* unless appropriate justification is provided for alternative uses.

3.4 Town of Grand Valley Official Plan 2006 (Consolidated April 2017)

Schedule A-2 defines the land use within the Town (Appendix C). Currently, the eastern portion of the property is designated as Mixed Use and Urban Residential. The Mixed Use designation permits a range of commercial, residential and institutional uses as per Section 5.6.of the Town's OP. Section 5.3 of the Town's OP identifies permitted uses within the Urban Residential designation whereby all forms of residential development are permitted.

The western portion of the property is currently designated as Agriculture and Environmental Conservation. It is intended that the primary use of land in the Agricultural designation shall be agriculture according to Section 5.1 of the Town's OP. Schedule B1- Natural Heritage does not identify any Natural Heritage Features on the property. Lakes & Rivers, Streams and Wooded Areas (4.01-39.9ha are identified on adjacent lands (*i.e.* within 120m) (Appendix C). As per Section 5.11.4 (b) 'where development is proposed within 120m of Environmental Protection lands, the development shall be designed and constructed to preserve the natural function and flow characteristics of the feature or area'.

The Environmental Conservation overlay includes locally and provincially significant *natural heritage features (i.e.* unevaluated wetland) and lands that are potentially hazardous. Schedule B2 – Natural and Human-Made Hazards identifies the western portion (*i.e.* Environmental Conservation overlay) of the property as Floodplains (Appendix C). It is the objective of the OP to prohibit development on lands that are potentially hazardous (Section 5.12).

The Town of Grand Valley also has a portion of the property listed as a Wellhead Protection area (Appendix C).

3.5 Grand River Conservation Authority

The property is located within the Grand River Watershed and contains lands that are in part regulated by the GRCA and is therefore subject to Ontario Regulation 150/06 "Regulation of Development Interference with Wetlands and Alterations to Shorelines and Watercourses". Development or site alteration proposed within these lands requires a GRCA-issued Permit.

The regulated lands are associated with the presence of a watercourse located off-site and its associated floodplain (Appendix A). A portion of the property is also classified as a Highly Vulnerable Aquifer by the GRCA (Appendix A).

4.0 STUDY APPROACH

The following outlines the activities undertaken to satisfy the informational requirements of the GRCA in the production of the EIS.

4.1 Background Data

A review of background documents provided information on site characteristics, habitat, wildlife, rare species and communities, and general cultural/historic aspects of the study area. This included a review of the following:

- Aerial images (Google, VuMap);
- Atlas of the Breeding Birds of Ontario (OBBA) [website];

- The Ministry of Natural Resources and Forestry (MNRF)'s NHIC Make-A-Map: Natural Heritage Areas application [website];
- Ontario Nature – Ontario Reptile and Amphibian Atlas [website];
- MNRF's Species at Risk Ontario list;
- Dobbyn, J. (1994) – Atlas of the Mammals of Ontario; and
- GRCA's Watershed Viewer mapping tool.

4.2 Methodology and Surveys

4.2.1 Scope of Work

Azimuth contacted the GRCA with a proposed Terms of Reference. Through correspondence with the GRCA, a suitable Terms of Reference has been agreed upon (Appendix A).

4.2.2 Vegetation Community Mapping and Surveys

Prior to undertaking the field studies, an initial classification of habitats was completed using recent air photo imagery for the study area. The Ecological Land Classification for Southern Ontario (ELC, Lee *et al*., 1998) was used as a general guide to the classification of the vegetation community types. General vegetation community types were confirmed through on-site surveys conducted on August 25, 2014 and August 28, 2015.

4.2.3 Wildlife Surveys

General

Observations of mammals, birds, amphibians, and reptiles were recorded as a matter of course during all field investigations (through direct observation and through interpretation of sign [i.e. tracks, scats, vocalizations, etc.]). Candidate Significant Wildlife Habitat (SWH) functions were evaluated according to provincial criteria (i.e., Significant Wildlife Habitat Technical Guide (OMNR, 2000), Ecoregion 6E Criterion Schedule (MNRF, 2015).

Amphibians

Azimuth completed three evening calling amphibian surveys, according to the Marsh Monitoring Program (Bird Studies Canada, 2008) protocol at the sampling locations shown on Figure 2. According to the methodology, surveys are to be conducted 3 times in a year, between April and July 5th, with at least 15 days between each survey; beginning one half-hour after sunset and ending by midnight during evenings with suitable conditions [light winds and minimum night air temperatures of 5ºC, 10ºC and 17ºC for each of the three respective survey periods], with an observation period of 3 minutes carried out at each point count station. The dates and conditions of Azimuth's 2015 anuran amphibian surveys are as follows:

Date	Air Temperature (°C)	Wind	Cloud Cover (%)	Precipitation	Background Noise	Start Time	Observer
04/20/14	8	SW B=3*	100	Light Mist	Nil	22:13	MMF
05/26/14	21	SW, B=3	25	Nil	Nil	22:11	MMF
06/26/14	17	Nil	85%	Nil	Nil	21:30	MMF

* Denotes Beaufort Wind Scale

Birds

Two dawn breeding bird surveys were conducted and were based on a combined point count (5 minute duration) and roving survey methodology based on the Ontario Breeding Bird Atlas Guide for Participants (OBBA, 2001). Point counts were established and all birds identified through visual or auditory confirmation were recorded at each point for a total of five minutes. The locations of the relevant point count stations are shown on Figure 2. Breeding evidence was assessed based on the criteria of the OBBA (2001). The dates and conditions of Azimuth's 2015 dawn breeding bird surveys can be found in Table 3.

Species at Risk

The Species at Risk screening included an analysis of the habitat requirements of Species at Risk reported to occur in the overall planning area to identify those having potential to occur on or adjacent to the property based on habitats present. The MNRF was contacted to acquire Species at Risk and natural heritage information that may be relevant to this project. The MNRF responded and provided a list of species known and suspected to occur within the Town of East Luther Grand Valley (Appendix B).

Barn Swallow

Searches on the exterior and interior (where accessible) of the dwelling and associated outbuildings during 2015 field investigations and on July 18, 2017.

SAR Bats: Anthropogenic Exit Survey

The building exteriors were surveyed for cracks and holes that may provide access to the interior. Bat exit count surveys were conducted on July 18, 2017 and acoustic monitors were placed at potential exit locations associated with the structures to record bat activity.

SAR Bats: Forested Habitat
As per correspondence from the MNRF, acoustic surveys are recommended within the FOD to determine the presence/absence of Species at Risk bats (Appendix B). No acoustic monitoring within the FOD has been completed to date.

5.0 EXISTING CONDITIONS

5.1 Land Use

5.1.1 On-site Land Use

The land use on the property is composed of agricultural lands dominated by row-crops (soy) in the east and naturalized areas within the westernmost portion of the site (Figure 2). A small woodlot is present within the agricultural lands. A single family dwelling with a shed and dilapidated outbuilding is present within the eastern property limits along County Road 25. The western portion of the property is currently in its natural early successional state.

5.1.2 Adjacent Land Use

Agricultural land borders the property along the southern edge. The Upper Grand Trailway (walking path) borders the property to the north with residential and agricultural land further north. Highway 25 borders the property to the east. The naturalized area on the west side of the property extends to the west off-site.

5.2 Vegetation

Ecological Land Classification (ELC) and mapping was completed during site visits on August 25, 2014 and August 28, 2015. The ELC for Southern Ontario was used to classify vegetation community types. Table 1 describes the vegetation communities identified on site and Figure 2 depicts their location. A complete list of the vegetation species observed on the property is presented in Table 2. None of the vegetative species documented are of federal or provincial conservation concern.

A survey for Butternut (END) was completed in conjunction with Azimuth's field investigations. No Butternut was observed on the property or adjacent lands.

5.2.1 Wetland

There are no Provincially Significant Wetlands (PSW) on or within 120m of the property. There are no MNRF identified wetlands on or within 120m of the property (Appendix B).

Three wetland communities (MAM2-2, SWT2-2, SWT2-5) are present on site (Figure 2). The wetland features are located in the western portion of the property. The wetland

boundary was confirmed on May 28th, 2015, through an on-site visit with GRCA staff (Andrew Herremen), whereby the feature was staked and subsequently surveyed. The wetland is a total of 4.0 hectares (ha) in size and the limit is depicted on Figure 2.

5.2.2 Woodland

One woodland community has been identified within the agricultural lands along the southern border of the property (Figure 2). The woodland is approximately 0.6 ha in size.

5.3 Wildlife Habitat

5.3.1 Mammals

Mammal species utilizing the property included: Coyote (*Canis latrans*), Groundhog (*Marmota monax*), Eastern Cottontail (*Sylvilagus floridanus*) and Raccoon (*Procyon lotor*). None of the species observed are of federal or provincial conservation concern.

5.3.2 Amphibians

Three evening calling amphibian surveys were conducted on site. A survey station was established within wetland habitat (Figure 2). Amphibians were heard calling on the earliest of the surveys (*i.e.*, April) whereby a full chorus of Spring Peepers, one (1) Northern Leopard Frog and five (5) Wood Frogs were documented. There was no activity documented during subsequent visits to the site (*i.e.*, May and June). None of the species observed are of federal or provincial conservation concern. During all surveys, calling amphibians were noted within the waste water treatment ponds located on adjacent lands to the east.

5.3.3 Birds

Two dawn breeding bird surveys were conducted on site utilizing six point count stations (Figure 2). A total of 39 bird species were documented to be utilizing the property (Table 3). Of these species, one area-sensitive grassland bird - Savannah Sparrow, was recorded. The term area-sensitive indicates that a species requires a large area of suitable habitat in order to sustain their populations. Three species of conservation concern were observed including Bobolink (THR), Eastern Meadowlark (THR) and Eastern Wood-pewee (Special Concern; SC). With the exception of the three species listed above, none of the other bird species documented on site are of federal or provincial conservation concern.

The Ontario Breeding Bird Atlas (OBBA, 2009, Appendix B) was consulted to identify additional SAR that could be utilizing the area for breeding purposes. Summary Square 17NJ56 of the OBBA identified 6 Species at Risk documented during the 2nd (2001-2005) atlas, including Bank Swallow (THR), Barn Swallow (THR), Bobolink (THR), Eastern Meadowlark (THR), Eastern Wood-pewee (SC) and Wood Thrush (SC).

5.3.4 Aquatic Habitat

There is no fish habitat on the property. Boyne Creek is located on adjacent lands approximately 100m to the southwest. This creek originates from the Luther Marsh Wildlife Management Area (northwest of the property) and flows in an easterly direction before discharging into the Grand River.

5.4 Species at Risk

The MNRF (Guelph District) was contacted to determine if there was any additional Species at Risk potentially utilizing the property. The MNRF has indicated that there are no known records of Species at Risk for the property or adjacent lands but provided a list of Species at Risk that are known or have the potential to occur within East Luther Grand Valley (Appendix B).

Species at Risk and their preferred habitat were screened to determine whether there is potentially suitable habitat on or adjacent to the property (Table 4) for the Species at Risk list provided by MNRF (Appendix B). Of the species identified with potential to exist within the general area, the following were identified based on habitat requirements to have potential to exist on site.

- Mammals: Little Brown Myotis (END), Northern Myotis (END) and Tri-colored Bat (END);
- Birds: Barn Swallow (THR), Bobolink (THR), Canada Warbler (SC), Eastern Meadowlark (THR), Eastern Wood-pewee (SC), Red-headed Woodpecker (SC), Wood Thrush (SC) and Yellow-breasted Chat (SC)
- Plants: Butternut (END)

The results of breeding bird surveys indicated presence of the following SAR only: Bobolink (THR), Eastern Meadowlark (THR), and Eastern Weed-pewee (SC). No Butternut (END) were observed.

6.0 NATURAL HERITAGE FEATURES AND FUNCTIONS

6.1 Wetland

Wetland habitat has been identified on site. As indicated above, the limits of the wetland have been confirmed on site by GRCA and have subsequently been surveyed (Figure 2).

6.2 Woodland

The Woodland present on the property has not been identified as Significant within the Town's OP. An assessment of significance of the woodland as per the recommendations of the Natural Heritage Reference Manual (OMNR, 2010) is presented in Table 5.

Section 4.2.1.5 of the Town's OP outlines requirements for significant woodlands within the municipality as follows:

a) Woodlands 20 hectares in size or larger;
b) Woodlands that have 2 ha or more of interior habitat; and/or
c) Woodlands located within a defined natural heritage system or providing a connecting link between two other woodlands having a minimum areas of 20 hectares each.

The woodlands identified within the property limits do not satisfy the provincial or municipal criteria for significance. Therefore, the woodlands are not considered to be significant.

6.3 Candidate Significant Wildlife Habitat

Table 6 provides an assessment of candidate SWH functions. Based on provincial criteria our findings indicate that there is candidate SWH related to Habitat for Special Concern and Rare Wildlife Species associated with the property;

The Eastern Wood-pewee (SC) was documented within community FOD5-1 and SWT2-2. Species designated as SC are not protected according to Ontario's ESA, however, its presence makes the forest and thicket swamp unit a candidate as SWH.

6.4 Endangered & Threatened Species

Potential habitat for species listed as THR or END was identified on and adjacent to the property. Our preliminary screening considered in combination with data acquired through species specific surveys has identified habitat potential as follows:

- Habitat for Bobolink (THR);
- Habitat for Eastern Meadowlark (THR);
- Potential habitat for Barn Swallow (THR); and
- Potential habitat for END bat species.

6.4.1 Bobolink and Eastern Meadowlark

Suitable habitat within 300m of an active Bobolink/Meadowlark nest, or, the central portion of the species territory, is considered to be General Habitat by MNRF and is recommended for protection under the ESA, as per the General Habitat Description for the Bobolink and Eastern Meadowlark technical documents (MNRF, 2013). Suitable habitat for these species is comprised of graminoid dominated meadow habitat such as

pastures, hayfields, old or abandoned fields, and native prairies and savannahs (McCracken *et al.* 2013).

Bobolink was observed to be utilizing the wetland habitat within the western portion of the property (Figure 2). It was documented during each of the dawn breeding bird surveys at point count station 4 and once at point count station 5 (Figure 2). However, it should be noted that the individual recorded at station 5 was the same individual documented at station 4 utilizing the MAM2-2 habitat. Meadow/wet meadow habitat extends to the west and southwest of the property.

Eastern Meadowlark was observed during the 1st breeding bird survey, just off-site at the western limits of the property. Similarly, the Meadowlark was observed during the 2nd breeding bird survey perched on a hedgerow tree along the northern property limit. Eastern Meadowlark was also observed within the SWT2-2 community during the 2nd survey (Figure 2). The Meadowlarks documented appeared to be utilizing woody vegetation as song perches.

Observations of both Eastern Meadowlark and Bobolink are associated with wetland habitat on the west end of the site and extending off-site. No observations were made within the area proposed for development.

6.4.2 Barn Swallow

Structures potentially suitable for Barn Swallow nesting are present on the property on the existing home and associated shed/outbuildings. However, no Barn Swallow were confirmed to be nesting on the structures through the course of our field investigations. There were no old nests observed on any of the structures.

Foraging habitat within 200m of an active Barn Swallow nest is considered to be General Habitat by MNRF and protected under the ESA, as per the *General Habitat Description for the Barn Swallow Technical Document* (MNRF, 2013). Barn Swallows may utilize the upland meadow and meadow marsh areas of the property as foraging habitat, the majority of which will be preserved post-development although the species was not documented during Azimuth's 2015 dawn breeding bird surveys. As indicated above, potential nesting habitat is present on the property, but the structures are not located within 200m of the potential foraging habitat present within the western portion of the property. There are no structures (off-site) within 200m that could provide potential Barn Swallow nesting habitat. Therefore, the proposed development will not contravene the ESA as it pertains to the protection of Barn Swallow and associated habitat.

6.4.3 Little Brown Myotis, Northern Myotis and Tri-colored Bat

The structures present on site may provide suitable roosting habitat for Little Brown Myotis as they often select attics, abandoned buildings and barns for summer maternity colonies where they can raise their young. Visual and acoustic exit survey conducted in 2017 did not reveal the presence of roosting habitat within the structures nor were any Species at Risk bats detected.

The isolated forest community on the property has the potential to provide maternity roost habitat for SAR bats. Appropriate surveys (*i.e.* acoustic), as recommended by the province, should be completed to in order to determine the presence/absence of Species at Risk bats within the woodlot.

6.5 Aquatic Habitat

Boyne Creek provides fish habitat, as defined by the *Federal Fisheries Act*, 1985. The Fisheries Act requires that projects avoid causing serious harm to fish unless authorized by the Minister of Fisheries and Oceans Canada (DFO).

6.6 Natural Hazard Lands

Floodplains have been identified on the property, as shown by Schedule B-2 Natural & Human-Made Hazards of the Town of Grand Valley Official Plan (Appendix A). Valdor Water Resources (2016) determined the limit of the Regional Flood, which is illustrated in Figure 2. The GRCA regulates floodplain areas.

7.0 KEY NATURAL HERITAGE FEATURES

The results of our field studies, review of background information and assessment indicate the following key natural heritage features and functions are associated with the property and adjacent lands:

- Wetland;
- Candidate SWH, SC species (Eastern Wood-pewee);
- Habitat for Endangered or Threatened Species (Bobolink, Eastern Meadowlark, Species at Risk Bats);
- Aquatic Habitat; and
- Natural Hazard Lands.

8.0 PROPOSED DEVELOPMENT

The proposed development consists of a mix of lots for detached dwellings, townhomes, mixed use and commercial development (commercial-residential). The subdivision will include a connection to County Road 25 and includes an internal road network of three

(3) streets. Block 7 adjacent the environmental buffer has been established for a Stormwater Management (SWM) facility for the treatment of stormwater runoff. The remainder of the lands consist of wetland and cultural meadow habitat (Figure 3).

The proposed development will be serviced with municipal water and sewer, provided that sufficient infrastructure is available within the Town to accommodate the demands of the proposed development.

The SWM facility will be located to the west of the proposed development and drainage patterns will generally follow existing conditions, with all development area drainage to be directed through the proposed SWM facility before it discharges to the valley near Boyne Creek via an outlet near the west corner of the property.

9.0 IMPACT ASSESSMENT

9.1 Wetland

There is no development proposed within the limits of the wetland.

Adjacent to Block 7, a 10m "no touch" development setback will remain adjacent to the wetland (Figure 3). Block 7 is a SWM management pond, which GRCA has confirmed, is an acceptable use adjacent to the 10m wetland setback (GRCA 2019 letter, Appendix A).

Although not a natural feature, a properly managed stormwater management pond can represent a relatively benign use on the landscape and in many respects, function to provide habitat for local wildlife, much like a natural wetland community. Stormwater controls should be implemented to meet Ministry of the Environment and Climate Change standards for water quality and quantity. Furthermore, in accordance with the Town and GRCA requirements, the SWM facility should be planted with native vegetation to provide a naturalized feature contributing to the buffer area from the residential development to the east.

In efforts to maximize the setback to the wetland in relation to the seven lots that will abut the setback, the rear lots have been straightened. The following wetland setbacks are proposed for Lots 59-65 (Figure 3)

Lot #	Proposed Wetland Setback (m)
59	42.2-50.6
60	30.0-42.2
61	22.7-30.0

62	19.1-22.7
63	22.5-19.1
64	25.8-22.5
65	30.7-25.8

A reduced buffer (*i.e.* <30m) is proposed adjacent to the rear of Lots # 61-64. The reduced buffer is proposed in order to meet the minimum lot size requirements of the Town while still maximizing the proposed buffer to the wetland.

This reduced buffer is offset through an increased buffer adjacent to Lots # 59, 60 and 65 with a resulting average buffer of approximately 29 m associated with Lots 59-65. All proposed structure envelopes within each individual lot will be located at least 30m from the limits of the wetland.

The proposed buffer will provide a screen to adjacent residential development and will aid in the attenuation of any potential excess nutrients and pollutants that may migrate towards the wetland community. The buffer will also protect the critical root zone of the vegetation within the delineated wetland feature. Additional mitigation measures are recommended below to prevent incidental encroachment into the wetland and to enhance the function of the buffer lands.

As per the Town's Transportation Master Plan Study (2017) a recommended road network is proposed which includes a Collector Road through the Corseed property that connects to the lands to the northeast (Thomasfield's Mayberry Hill Phase 3B development). The recommended Collector Road system builds around the Main Settlement Area and connects the new development areas within the Town to Amaranth East Luther Townline (Burnside, 2017). The proposed location of the Collector Road (Street A, Figure 3) will be located > 30m from the limits of the wetland on the Corseed property.

9.2 Candidate Significant Wildlife Habitat

Habitat for Special Concern and Rare Wildlife Species

Eastern Wood-Pewee was observed within the FOD and SWT community. The SWT community will remain post-development. The FOD community will be lost as a result of the proposed development. Given the small size (*i.e.* 0.6ha) of the community, it does not represent a feature utilized by a large number of forest breeding birds. This was evident through the relatively small number of primarily urban adept/edge bird species documented within this community. The forest community identified on the property is common in the overall planning area. There is no expectation that the removal of forested vegetation community as outlined within the Concept plan would significantly impact habitat availability for Eastern Wood-pewee populations, given the abundance of mature woodland on adjacent lands, and the Town. Thus, the proposed development is

not anticipated to have a negative impact on the habitat for Special Concern Bird Species as defined by the PPS.

9.3 Habitat of Endangered and Threatened Species

Bobolink and Eastern Meadowlark

The development is proposed in an area that is currently primarily maintained as cash crops with a small woodlot feature and hedgerows. No areas of continuous suitable grassland habitat have been proposed for removal in association with the proposed development. As such, there is no expectation that the proposed works would result in damage or destruction to the habitat of Bobolink or Meadowlark. Given that both species have been identified in the overall area, mitigation has been proposed to facilitate development in a manner which will avoid potential to contravene Section 9 (Kill, Harm, Harass) of the ESA.

Endangered Bat Species

The proposed development will result in the demolition and removal of the existing structures on site in addition to the removal of the FOD5-1 community.

The 2017 survey of the anthropogenic structures (visual and acoustic) did not reveal the presence of maternity roost habitat within the structure nor did it reveal the presence of any SAR bats. Therefore, mitigation related to the timing of demolition of the structures on the property is recommended below. Ontario's ESA affords Northern and Little Brown Myotis individual and habitat protection as an END species. Northern and Little Brown Myotis, if present locally - would only utilize habitat of the property outside of the winter season (*i.e.*, the structures do not provide winter hibernation habitat and bats are inactive during winter). Therefore, as long as the structures on the property are demolished outside the maternity season (*i.e.*, April – October 31), there will be no harm to individual bats or bat habitat consistent with Section 2.1.8 of the 2014 PPS and Ontario's ESA.

As per current provincial direction, acoustic surveys are recommended to confirm presence/absence of END bats within the woodlot.

9.4 Aquatic Habitat

There is no aquatic habitat present on the property. The Boyne Creek is located to the southwest of the property. As a result, there will be no direct impact from the proposed development. The proposed SWM facility will collect drainage from the development before it discharges to the floodplain and then ultimately into Boyne Creek. The outlet of the SWM is located >200m from Boyne Creek therefore, there is no expectation that there will be any indirect impacts to the watercourse and its associated aquatic habitat if

SWM is designed as per details within the FSR (Valdor, 2016). The SWM will be designed to provide quality, quantity, erosion and flood control as per the requirements of the Ministry of the Environment and Climate Change (MOECC), GRCA and Town of Grand Valley (Valdor, 2016). Thermal mitigation measures shall be incorporated into the SWM pond design to minimize thermal impacts to the receiving watercourse. These measures include a bottom draw pipe and a planting strategy to promote shading along the pond perimeter (Valdor, 2016).

9.5 Natural Hazard Lands

All development will occur outside of the floodplain.

10.0 RECOMMENDATIONS

10.1 Wetland

10.1.1 Setbacks

Prior to any site alteration or development the limits of development should be delineated on the property through the installation of fencing. This fencing can duplicate as a sediment control as described below.

The rear of all lots that abut the wetland setback including Block 7 (Stormwater Management) should be fenced to prevent access and/or incidental encroachment into these protected areas.

The 10m setback adjacent to Block 7 and setback adjacent to Lots 59-65 should be planted with native self-sustaining vegetation in order to further enhance the function of the setback which, in time, will help to screen the wetland from the adjacent residential development.

All lighting should be directed away from the wetland habitat.

The SWM pond will form a portion of the buffer adjacent to the wetland. A planting plan should be prepared for the storm water pond. The planting plan should include a mix of native trees and shrubs.

10.1.2 General

Wetland communities are to be protected at all times from any excavated and erodible soils from entering the feature through the use of properly placed, installed and maintained sediment controls (sediment barriers, flow checks (straw or rock), envirobags,

etc.). Further all equipment should be stored, serviced and refuelled more than 30 m away from the wetland.

10.2 Species at Risk

10.2.1 Non-detected Species of Concern

It should be noted that the absence of a protected species at this time does not indicate that they will never occur within the area. Given the dynamic character of the natural environment, there is a constant variation in habitat use. Also, Species at Risk lists are subject to change with species being up-listed or down-listed. A review of the assessment provided in this report by a qualified person should be sufficient to provide appropriate advice at the time of the onset of future site works.

10.2.2 Worker Training

Worker training could be beneficial to assist the on-site workers in the identification of the Species at Risk with potential to occur in the area. Workers should be instructed to stop work immediately and contact the local MECP office immediately if any Species at Risk are encountered within the work area. Individuals working on site should ensure that Species at Risk are not harmed during construction or killed by heavy machinery, vehicles or other equipment.

10.2.3 Bobolink and Eastern Meadowlark

As per direction provided by the MNRF, it is recommended that an information Gathering Form (IGF) is submitted to the province (now MECP) in order to ensure compliance with the ESA. MECP will then determine whether an activity is likely to kill, harm or harass a listed species and/or damage or destroy its habitat. Additional recommendations (if required) can then be made to ensure no contravention of Ontario's ESA.

10.2.4 Barn Swallow

A visual search of the structures for nests should occur prior to demolition. If the search reveals species (*i.e.*, nest) presence, demolition efforts should cease and the MECP should be contacted to determine if an ESA Permit or Authorization is required.

10.2.5 Endangered Bat Species

MECP should be consulted to confirm the recommended approach related to potential SAR bats within the woodlot. Current provincial direction indicates that acoustic monitoring is required to determine the presence/absence of SAR bats within the woodlot. The proponent should continue consultation with MECP to ensure this is the most appropriate approach and complete the survey as per provincial direction.

Once complete, MECP should be informed, through the submission of an IGF, with the results of the acoustic surveys to determine if additional action is required in order to ensure compliance with the ESA. The province will then determine whether an activity is likely to kill, harm or harass a listed species and/or damage or destroy its habitat. Additional recommendations (if required) can then be made to ensure no contravention of Ontario's ESA.

Construction activities involving the demolition of structures should be restricted from occurring between the beginning of April to October 31. This will ensure that no bats actively roosting in structures (or in trees) will be killed or harmed as a result of demolition/clearing activities. The same timing restriction (*i.e.* April – October 31) should be applied to mature individual trees and trees within the woodlot (once consultation, surveys and appropriate steps are taken to ensure no contravention of Ontario's ESA as described above).

10.3 Migratory Breeding Birds

Future construction activities involving the removal of vegetation should be restricted from occurring during the breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act*, 1994 and the *Fish and Wildlife Conservation Act*, 1997. Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4F39A78F-1#_03). In Zones C2 and C3 vegetation clearing should be avoided between April 1st through August 30th of any given year. If work requires that vegetation clearing is to be done between these dates, screening by an ecologist with knowledge of bird species present in the area should be undertaken to ensure that the risk to impacting nesting birds has been evaluated and assumed to be low to non-existent.

11.0 CONCLUSIONS

The results of this EIS, including the recommended mitigation measures, demonstrate that the proposed development will not negatively impact KNHFs or ecological functions present on or adjacent to the subject property. Provided the recommended steps are taken related to SAR, there is no expectation that there will be any contravention of Ontario's ESA. Based on the information and the site specific conditions for the subject property related to potential habitat for the species, it is the position of Azimuth staff that the draft plan design as proposed will result in a development which is consistent with the policies set out within the PPS, the regulations set out within Ontario's ESA, Dufferin County and the Town of Grand Valley.

Ultimately, considering the site conditions and the draft plan design, the potential impacts to KNHF including SAR associated with this project are minimal and mitigable. Provided the recommendations and mitigation measures provided in this report are undertaken, the proposed development will not impact any identified features negatively. In the event, however, any of the species identified with potential to occur in the area are observed at the time of construction, then the proponent must ensure that appropriate actions are taken to protect the species and related habitat. It is recommended that MECP be contacted to determine the appropriate actions to protect the species in accordance with the ESA at that time.

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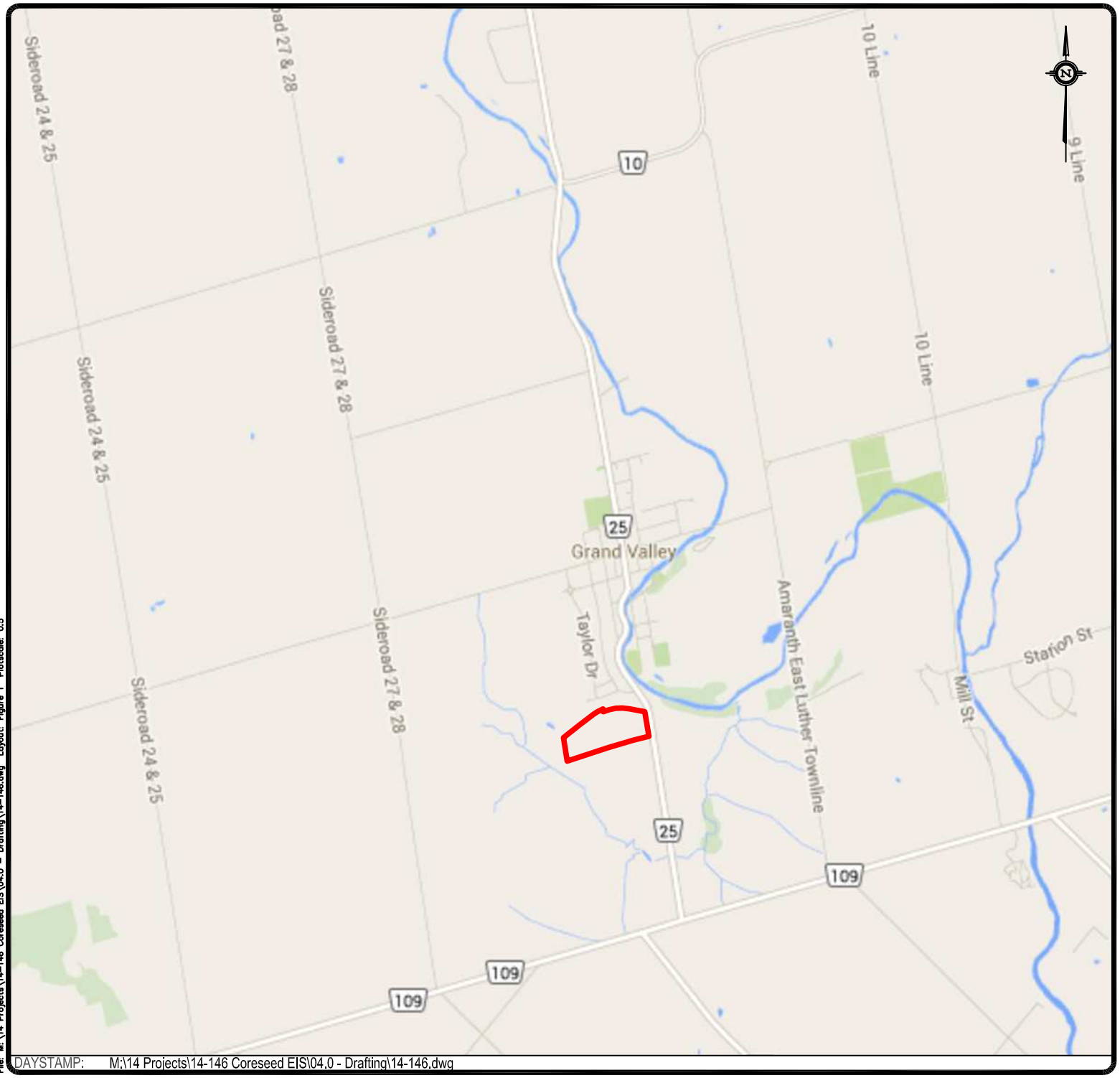

LEGEND:

Approx. Property Boundary

600m 0 1200m

HORIZONTAL SCALE 1: 40,000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Study Area Location

County Rd. 25,
Grand Valley, ON

DATE ISSUED: *August 2014*	Figure No.
CREATED BY: *JLM*	
PROJECT NO.: *14-146*	1
REFERENCE: *Google Maps*	

DAYSTAMP: M:\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg

Plotted by: JMCCARTNEY on August 25, 2014 at 11:05am
File: M:\14 Projects\14-146 Coreseed EIS\04.0 – Drafting\14-146.dwg Layout: Figure 1 Plotscale: 0.5

LEGEND:

- Approx. Property Boundary
- Watercourse
- Floodplain (GRCA)
- (#) Bird Point Count Station
- (E) Eastern Meadowlark
- (B) Bobolink
- Residential Home and Associated Out-buildings
- Acoustic Survey Location
- Confirmed Centre of Bobolink Territory
- Category 1 Habitat (0 - 10m)
- Category 2 Habitat (10 - 60m)
- Category 3 Habitat (60 - 300m)
- (#) Amphibian Survey Station (white)

Upland Communities

- CUM1-1 Dry-Moist Old Field Meadow Type
- FOD5-1 Dry-Fresh Sugar Maple Deciduous Forest Type

Wetland Communities

- MAM2-2 Reed Canary Grass Mineral Meadow Marsh Type
- SWT2-2 Willow Mineral Thicket Swamp Type
- SWT2-5 Red-osier Mineral Thicket Swamp Type

25m 0 75m

HORIZONTAL SCALE 1:2,500

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Features

County Rd. 25,
Grand Valley, ON

DATE ISSUED:	January 2018	Figure No.
CREATED BY:	JLM	2
PROJECT NO.:	14-146	
REFERENCE:	First Base Solutions	

DAYSTAMP: M:\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg

Plotted by: JMCCARTNEY on April 30, 2019 at 3:01pm
File: M:\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg Layout: EIS2 Plotscale: 1.5

LEGEND:

- *Approx. Property Boundary*
- *Watercourse*
- *Floodplain (GRCA)*

25m 0 75m

HORIZONTAL SCALE 1:2,500

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Proposed Development Plan

County Rd. 25,
Grand Valley, ON

DATE ISSUED:	*October 2018*	Figure No.
CREATED BY:	*JLM*	3
PROJECT NO.:	*14-146*	
REFERENCE:	*First Base Solutions*	

DAYSTAMP: M:\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg

Plotted by: JMCCARTNEY on April 30, 2019 at 12:44pm
File: M:\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg Layout: EIS3 Pictacole: 1.5

Table 1. ELC Vegetation Community Description (AEC 14-146).

Ecological Land Classification[1]											
System	**Community Class**	**Community Series**	**Ecosite**	**Vegetation Type**	**G-Rank[2]**	**S-Rank[2]**	**Composition[3]**	**Structure[4]**	**Soils[5]**	**Basal Area (m^2/ha)**	**Area (ha)**
Terrestrial	Forest	FOD, Deciduous Forest	FOD5, Dry-Fresh Sugar Maple Deciduous Forest	FOD5-1, Dry-Fresh Sugar Maple Deciduous Forest	G?	S5	Sugar Maple >> Black Cherry = White Ash	dbh(cm): < 10 A, 10-24 A, 25-50 O, > 50 R	1cm fine organics (fibric) over silty clay loam, followed by clay loam. Moisture Regime: 2. Well to moderately well drained.	44.0	0.6
Terrestrial	Cultural	CUM, Cultural Meadow	CUM1, Mineral Cultural Meadow	CUM1-1, Dry-Moist Old Field Meadow	NA	NA	Grasses, common old-field flowering plants and scaterred shrubs (see Table 2 for list of species)	Field habitat dominated by grass and forb species, with ocassional shrubs	5 cm fine organics (fibric) over silty clay loam. Very stony below 45cm. Moisture Regime 3-4. Very fresh to moderately moist.	NA	1.5
Wetland	Swamp	SWT, Thicket Swamp	SWT2, Mineral Thicket Swamp	SWT2-2, Willow Mineral Thicket Swamp	G5	S5	Willow >> dogwood > sedges	Thicket swamp dominated by willows, including Bebb's and Meadow Willows. Abundance of Red-osier Dogwood.	5 cm fine organics (fibric) over silty clay loam. Presence of mottles below 16cm of surface; presence of gleys below 45cm of surface. Layer of silty clay below 50cm. Moisture Regime 6. Very	NA	2.4
Wetland	Swamp	SWT, Thicket Swamp	SWT2, Mineral Thicket Swamp	SWT2-5, Red-osier Mineral Thicket Swamp	G5	S5	Red-osier Dogwood >> willows	Thicket swamp dominated by Red-osier Dogwood.	No data.	NA	0.2
Wetland	Marsh	MAM, Meadow Marsh	MAM2, Mineral Meadow Marsh	MAM2-2, Reed Canary Grass Mineral Meadow Marsh	NA	NA	Reed Canary Grass >> wet meadow forb species > wet meadow shrubs	Graminoid meadow community with pockets of wetland shrubs and forb species	5 cm fine organics (fibric) over silty clay loam. Presence of mottles below 20cm of surface; presence of gleys below 35cm of surface. Moisture Regime 6. Very moist.	NA	1.4

[1] Based on Ecological Land Classification (ELC) for southern Ontario (Lee *et al* . 1998)

[2] Taken from the NHIC website (http://www.ontario.ca/environment-and-energy/get-natural-heritage-information)

[3] Dominant plants and relative abundance

[4] Diameter at Breast Height (dbh) size range, A=Abundant, O=Occasional, R=Rare, N=None.

[5] Maximum depth of soil samples 50cm due to coarse rock fragments

Table 2 - Vegetation List, Grand Valley, ON (AEC 14-146).

FAMILY	SCIENTIFIC NAME	COMMON NAME	Hedgerow	CUM1-1	FOD5-1	MAM2-2	SWT2-2	SWT2-5	S RANK	G RANK
Aceraceae	*Acer negundo*	Manitoba Maple	x						S5	G5
Aceraceae	*Acer saccharum*	Sugar Maple	x		x				S5	G5
Apiaceae	*Daucus carota*	Wild Carrot	x	x			x		SNA	GNR
Araceae	*Arisaema triphyllum*	Jack-in-the-pulpit			x				S5	G5
Asclepiadaceae	*Asclepias syriaca*	Common Milkweed	x	x					S5	G5
Asteraceae	*Achillea millefolium*	Common Yarrow	x	x					SNA	G5
Asteraceae	*Ambrosia artemisiifolia*	Annual Ragweed	x						S5	G5
Asteraceae	*Arctium minus*	Common Burdock	x	x					SNA	GNR
Asteraceae	*Cirsium arvense*	Canada Thistle	x						SNA	GNR
Asteraceae	*Cirsium vulgare*	Bull Thistle	x						SNA	GNR
Asteraceae	*Erigeron hyssopifolius*	Daisy Fleabane	x						S5	G5
Asteraceae	*Euthamia graminifolia*	Grass-leaved Goldenrod				x	x	x	S5	G5
Asteraceae	*Eutrochium maculatum*	Spotted Joe Pye Weed				x	x	x	S5	G5
Asteraceae	*Onopordum acanthium*	Scotch Cotton-thistle	x						SNA	GNR
Asteraceae	*Solidago altissima*	Eastern Late Goldenrod	x				x		S5	GNR
Asteraceae	*Solidago canadensis*	Canada Goldenrod	x						S5	G5T5
Asteraceae	*Sonchus oleraceus*	Common Sow-thistle	x	x					SNA	GNR
Asteraceae	*Taraxacum officinale*	Common Dandelion	x	x					SNA	G5
Berberidaceae	*Caulophyllum thalictroides*	Blue Cohosh			x				S5	G4G5
Betulaceae	*Ostrya virginiana*	Eastern Hop-hornbeam			x				S5	G5
Caprifoliaceae	*Lonicera tatarica*	Tartarian Honeysuckle	x						SNA	GNR
Caprifoliaceae	*Sambucus canadensis*	Common Elderberry				x		x	S5	G5T5
Caprifoliaceae	*Viburnum acerifolium*	Maple-leaf Viburnum			x				S5	G5
Caprifoliaceae	*Viburnum opulus*	Highbush Cranberry	x						S5	GNR
Caryophyllaceae	*Dianthus armeria*	Deptford Pink	x						SNA	GNR
Clusiaceae	*Hypericum perforatum*	Common St. John's-wort	x	x					SNA	GNR
Cornaceae	*Cornus alternifolia*	Alternate-leaved Dogwood	x		x				S5	G5
Cornaceae	*Cornus stolonifera*	Red-osier Dogwood	x	x	x		x	x	S5	G5
Cupressaceae	*Thuja occidentalis*	Eastern White Cedar	x						S5	G5
Cyperaceae	*Carex alopecoidea*	Foxtail Sedge		x			x		S5	G5
Cyperaceae	*Carex bebbii*	Bebb's Sedge					x		S5	G5
Cyperaceae	*Carex intumescens*	Bladder Sedge					x		S5	G5
Cyperaceae	*Carex prasina*	Drooping Sedge			x				S4	G4
Cyperaceae	*Schoenoplectus tabernaemontani*	Soft-stemmed Bulrush					x		S5	G5
Cyperaceae	*Scirpus microcarpus*	Red-tinge Bulrush				x		x	S5	G5
Dryopteridaceae	*Athyrium filix-femina*	Northeastern Lady Fern			x				S5	G5T5
Equisetaceae	*Equisetum sp.*	Horsetail Sp.					x			
Fabaceae	*Lotus corniculatus*	Garden Bird's-foot Trefoil		x					SNA	GNR
Fabaceae	*Robinia pseudoacacia*	Black Locust			x				SNA	G5
Fabaceae	*Trifolium pratense*	Red Clover		x					SNA	GNR
Fabaceae	*Vicia cracca*	Tufted Vetch		x			x		SNA	GNR
Fagaceae	*Fagus grandifolia*	American Beech			x				S4	G5
Grossulariaceae	*Ribes hirtellum*	Smooth Gooseberry	x						S5	G5
Lamiaceae	*Clinopodium vulgare*	Field Basil	x	x		x		x	S5	G5
Lamiaceae	*Mentha sp.*	Mint Sp.					x		SNA	GNR
Lamiaceae	*Prunella vulgaris*	Self-heal		x					S5	G5T5

Table 2 - Vegetation List, Grand Valley, ON (AEC 14-146).

FAMILY	SCIENTIFIC NAME	COMMON NAME	Hedgerow	CUM1-1	FOD5-1	MAM2-2	SWT2-2	SWT2-5	S RANK	G RANK
Liliaceae	*Asparagus officinalis*	Garden Asparagus		x					SNA	G5?
Liliaceae	*Maianthemum racemosum*	False Solomon's-seal	x		x				S5	G5
Liliaceae	*Trillium sp.*	Trillium sp.			x					
Lythraceae	*Lythrum salicaria*	Purple Loosestrife		x		x		x	SNA	G5
Oleaceae	*Fraxinus americana*	White Ash	x		x				S4	G5
Onagraceae	*Circaea alpina*	Small Enchanter's Nightshade			x				S5	G5
Onagraceae	*Oenothera biennis*	Common Evening Primrose	x						S5	G5
Orchidaceae	*Epipactis helleborine*	Eastern Helleborine	x						SNA	GNR
Pinaceae	*Pinus sylvestris*	Scotch Pine	x					x	SNA	GNR
Plantaginaceae	*Plantago lanceolata*	English Plantain	x			x			SNA	G5
Plantaginaceae	*Plantago major*	Common Plantain	x						S5	G5
Poaceae	*Agrostis gigantea*	Redtop					x		SNA	G4G5
Poaceae	*Bromus inermis*	Awnless Brome	x						SNA	G5TNR
Poaceae	*Dactylis glomerata*	Orchard Grass	x						SNA	GNR
Poaceae	*Elymus repens*	Creeping Wildrye	x						SNA	GNR
Poaceae	*Phalaris arundinacea*	Reed Canary Grass					x		S5	G5
Poaceae	*Phleum pratense*	Common Timothy		x			x		SNA	GNR
Poaceae	*Poa pratensis*	Kentucky Bluegrass	x	x					S5	G5T5
Polygonaceae	*Fallopia japonica*	Japanese Knotweed	x						SNA	GNR
Polygonaceae	*Rumex crispus*	Curly Dock	x						SNA	GNR
Ranunculaceae	*Actaea pachypoda*	White Baneberry			x				S5	G5
Ranunculaceae	*Actaea rubra*	Red Baneberry			x				S5	G5
Ranunculaceae	*Anemone canadensis*	Canada Anemone		x		x	x	x	S5	G5
Rhamnaceae	*Rhamnus cathartica*	Common Buckthorn	x						SNA	GNR
Rosaceae	*Agrimonia striata*	Woodland Agrimony			x				S4?	G5
Rosaceae	*Aruncus dioicus*	Common Goatsbeard				x			SNA	G5
Rosaceae	*Fragaria virginiana*	Wild Strawberry	x	x	x				S5	G5
Rosaceae	*Geum sp.*	Avens Sp	x	x	x				S5	G5
Rosaceae	*Malus pumila*	Common Apple	x						SNA	G5
Rosaceae	*Potentilla sp.*	Silvery sp.	x							
Rosaceae	*Prunus serotina*	Wild Black Cherry	x		x	x		x	S5	G5
Rosaceae	*Prunus virginiana*	Choke Cherry	x		x				S5	G5
Rosaceae	*Rubus idaeus*	Wild Red Raspberry	x	x	x				S5	G5T5
Rosaceae	*Rubus occidentalis*	Black Raspberry	x						S5	G5
Rosaceae	*Sorbus americana*	American Mountain-ash	x		x				S5	G5
Rosaceae	*Spiraea alba*	White Meadowsweet		x		x	x	x	S5	G5
Salicaceae	*Populus tremuloides*	Trembling Aspen	x			x	x	x	S5	G5
Salicaceae	*Salix bebbiana*	Bebb's Willow		x			x		S5	G5
Salicaceae	*Salix discolor*	Pussy Willow		x		x		x	S5	G5
Salicaceae	*Salix lucida*	Shining Willow				x		x	S5	G5
Salicaceae	*Salix petiolaris*	Meadow Willow					x		S5	G5
Scrophulariaceae	*Verbascum thapsus*	Common Mullein	x						SNA	GNR
Solanaceae	*Solanum dulcamara*	Climbing Nightshade	x		x				SNA	GNR
Tiliaceae	*Tilia americana*	American Basswood	x		x				S5	G5
Typhaceae	*Typha latifolia*	Broad-leaved Cattail				x		x	S5	G5
Ulmaceae	*Ulmus americana*	American Elm	x		x				S5	G5?

Table 2 - Vegetation List, Grand Valley, ON (AEC 14-146).

FAMILY	SCIENTIFIC NAME	COMMON NAME	Hedgerow	CUM1-1	FOD5-1	MAM2-2	SWT2-2	SWT2-5	S RANK	G RANK
Vitaceae	*Parthenocissus quinquefolia*	Virginia Creeper			x				S4?	G5

Table 3 - Bird List, Coreseed property, Grand Valley (AEC14-146).

			Point Count Stations[A,B,C]									Conservation Rank		
Family	**Scientific Name**	**English Common Name**	**1**	**2**	**3**	**4**	**5**	**6**	**Incidental**	**Breeding Evidence**	**Area-sensitive?***	**S-Rank**	**G-Rank**	**SARO Status**
Anatidae	*Anas platyrhynchos*	Mallard							FO	Observed		S5	G5	
Anatidae	*Branta canadensis*	Canada Goose			FO		FO			Observed		S5	G5	
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing	S^A				S^B		X	Possible		S5B	G5	
Cardinalidae	*Cardinalis cardinalis*	Northern Cardinal				FO		S^B		Possible		S5	G5	
Cardinalidae	*Pheucticus ludovicianus*	Rose-breasted Grosbeak					S^B			Possible		S4B	G5	
Charadriidae	*Charadrius vociferus*	Killdeer		T	S^A	S^B		S^B	X	Probable		S5B,S5N	G5	
Columbidae	*Zenaida macroura*	Mourning Dove	S^B	S^A		FO			X	Possible		S5	G5	
Corvidae	*Corvus brachyrhynchos*	American Crow	FO	FO	S^B	FO	FO, S^B	S^B	X	Possible		S5B	G5	
Corvidae	*Corvus corax*	Common Raven							X	Observed		S5	G5	
Emberizidae	*Melospiza melodia*	Song Sparrow	T	T	T	T	S^A	S^A	X	Probable		S5B	G5	
Emberizidae	*Passerculus sandwichensis*	Savannah Sparrow			T		S^B			Probable	Yes	S4B	G5	
Emberizidae	*Spizella pallida*	Clay-colored Sparrow			S^A	T	S^A			Probable		S4B	G5	
Emberizidae	*Spizella passerina*	Chipping Sparrow						T		Probable		S5B	G5	
Fringillidae	*Carduelis tristis*	American Goldfinch		S^B		S^A	S^B		X	Possible		S5B	G5	
Fringillidae	*Carpodacus mexicanus*	House Finch						S^A		Possible		SNA	G5	
Hirundinidae	*Tachycineta bicolor*	Tree Swallow				FO			X	Observed		S4B	G5	
Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird			S^B			S^B		Possible		S4	G5	
Icteridae	*Dolichonyx oryzivorus*	Bobolink				T			X	Probable		S4B	G5	THR
Icteridae	*Molothrus ater*	Brown-headed Cowbird	S^B	FO	S^A		S^B	S^B		Possible		S4B	G5	
Icteridae	*Quiscalus quiscula*	Common Grackle		S^B			S^B	CF		Confirmed		S5B	G5	
Icteridae	*Sturnella magna*	Eastern Meadowlark				S^B				Possible		S4B	G5	THR
Laridae	*Larus delawarensis*	Ring-billed Gull			FO					Observed		S5B,S4N	G5	
Mimidae	*Dumetella carolinensis*	Gray Catbird			S^B	S^A	S^A			Possible		S4B	G5	
Mimidae	*Toxostoma rufum*	Brown Thrasher							X	Observed		S4B	G5	
Paridae	*Poecile atricapillus*	Black-capped Chickadee		T					X	Probable		S5	G5	
Parulidae	*Geothlypis trichas*	Common Yellowthroat		S^B			S^B			Possible		S5B	G5	
Parulidae	*Setophaga petechia*	Yellow Warbler			T	T	T		X	Probable		S5B	G5	
Phasianidae	*Meleagris gallopavo*	Wild Turkey					S^A			Possible		S5	G5	
Sturnidae	*Sturnus vulgaris*	European Starling		S^A			S^A	S^A		Possible		SNA	G5	
Troglodytidae	*Troglodytes aedon*	House Wren							X	Observed		S5B	G5	
Turdidae	*Turdus migratorius*	American Robin	S^A	T	T	S^B	T		X	Probable		S5B	G5	
Tyrannidae	*Contopus virens*	Eastern Wood-pewee	T			S^A				Probable		S4B	G5	SC
Tyrannidae	*Empidonax alnorum*	Alder Flycatcher			T	T	S^A			Probable		S5B	G5	
Tyrannidae	*Empidonax traillii*	Willow Flycatcher		T	T	T	T			Probable		S5B	G5	
Tyrannidae	*Tyrannus tyrannus*	Eastern Kingbird					S^A		X	Possible		S4B	G5	
Vireonidae	*Vireo gilvus*	Warbling Vireo				S^B	S^B			Possible		S5B	G5	
Vireonidae	*Vireo olivaceus*	Red-eyed Vireo						S^B		Possible		S5B	G5	

* According to Appendix C of the Significant Wildlife Habitat Technical Guide (MNRF, 2000)

Table 3 - Bird List, Coreseed property, Grand Valley (AEC14-146).

Surveys Conditions:
[A]June 5, 2015; Start Time 0805hr/ End Time 0906hr; Temperature +16°C; Start Wind B1 SW/End Wind B1 SSW; Cloud Cover 25%; Precipitation Null; Observer M. Fuller
[B]June 22, 2015; Start Time 0537hr/ End Time 0635hr; Temperature +13°C; Wind B1W; Cloud Cover 30% - 45%; Precipitation Null; Observer M. Fuller

[C]OBBA Breeding Evidence Codes:
X - Species observed in its breeding season.
H - Species observed in its breeding season in suitable nesting habitat
C - Call heard (male or female), in suitable nesting habitat in nesting season.
S - Singing male present, or breeding calls heard, in suitable nesting habitat in nesting season.
FO - Fly Over
T - Permanent territory presumed trhough registration of territorial behaviour (e.g. song) on at least two days, a week or more apart, at the same place.
CF - Adult carrying food for young.

[D]Conservation Rank - from OMNRF, NHIC, SAR and SARO Lists 2014
[E]S-rank - S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common
[F]G-Rank - G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure
[G]SARO - EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

Table 4: Species at Risk Habitat Summary

Common Name	Species Name	MNR	Key Habitats Used By Species[1]	Initial Assessment
American Gingseng				
Bald Eagle	*Haliaeetus leucocephalus*	SC	Nests in a variety of habitats and forest types Winter perching areas around winter feeding areas ESA Protection: N/A	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Bank Swallow	*Riparia riparia*	THR	Nests in burrows excavated in natural and human-made settings with vertical sand and silt faces. Colonies commonly found in sand or gravel pits, lakeshores, and along river banks ESA Protection: Species and general habitat protection	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Barn Swallow	***Hirundo rustica***	**THR**	**Ledges and walls of man-made structures such as buildings, barns, boathouses** **Cliffs or caves** **ESA Protection: Species and general habitat protection**	**Potentially suitable habitat exists for this species within the shed and old out buildings associated with the farmstead. There were no Barn Swallow's documented to be utlizing the site.**
Black Tern	*Chlidonias niger*	SC	Colonial nesters typically within cattail marshes and other shallow marsh types. Floating nests. ESA Protection: N/A	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Blanding's Turtle	*Enydoidea blandingii*	THR	Blanding's Turtles are a primarily aquatic species that prefer wetland habitats, lakes, ponds, slow-moving streams, etc., however they may utilize upland areas to search for suitable basking and nesting sites. In general, preferred wetland sites are eutrophic and characterized by shallow water, organic substrates, and a high density of aquatic vegetation (COSEWIC, 2005). ESA Protection: Species and regulated habitat protection	Wetland habitat present on site does not represent typical habitat suitable for Blanding's Turtle.
Bobolink	***Dolichonyx oryzivorus***	**THR**	**Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >4ha (MNRF, 2000)**	**Potentially suitable habitat present on site. Species documented during breeding bird surveys.**
Butler's Gartersnake	*Thamnophis butleri*	END	Generally prefers open habitats, such as dense grasslands and old fields, where there are small marshes and seasonal wet areas	Subject property and general area largely composed of agricultural lands. Presence of Butler's Gartersnake associated with known populations within the Luther Marsh Wildlife Management Area located approximately 5 km to the northwest of the property. Not expected to be present on the property.

Table 4: Species at Risk Habitat Summary

Common Name	Species Name	MNR	Key Habitats Used By Species[1]	Initial Assessment
Butternut	*Juglans cinerea*	END	Occurs on a variety of sites, inc luding dry rocker soils (particularly those of limestone origin); grows best on well-drained fertile soils in shallow valleys and on gradual slopes; singly or in small groups mixed with other species. Intolerant of shade (Farrar 1995)	No Butternut identified on the Property.
Canada Warbler	*Wilsonia canadensis*	SC	Wet, mixed deciduous-coniferous forests with a well developed shrub layer. Shrub marshes, red-maple stands, cedar stands, black spruce swamps, larch and riparian woodlands along rivers and lakes. (COSEWIC, 2008) ESA Protection: N/A	Potentially suitable habitat exists for this species within the SWT community. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Cerulean Warbler	*Dendroica cerulea*	END	Forests; generally those with large mature deciduous trees and an open understory. ESA Protection: Species and general habitat protection	Species is typically associated with large (>10ha) mature deciduous forests (COSEWIC, 2010). Cerulean Warbler is not expected to be present in the small deciduous wooded areas on the property. Habitat is not representative of key habitat. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Chimney Swift	*Chaetura pelagica*	THR	Nests primarily in chimneys though some populations (i.e. in rural areas) may nest in cavity trees (Cadman 2007). Recent changes in chimney design and covering of openings to prevent wildlife access may be a significant factor in recent declines in numbers (Adams and Lindsey 2010). ESA Protection: Species and general habitat protection	The chimney of the residence on the property appears to have a cap which would prohibit access to wildlife. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Common Nighthawk	*Chordeiles minor*	SC	Open habitats including sand dunes, beaches recently logged/burned over areas, forest clearings, short grass prairies, pastures, open forests, bogs, marshes, lakeshores, gravel roads, mine tailings, quarries, and other open relatively clear areas. (COSEWIC, 2007) ESA Protection: N/A	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat. Not observed during Azimuth's 2014/2015 field investigations.
Eastern Meadowlark	***Sturnella magna***	**THR**	**Open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees. Old orchards with adjacent, open grassy areas >4 ha in size (MNRF, 2000)**	**Potentially suitable habitat present on site. Species documented during breeding bird surveys.**
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	Marsh, swamp, fen (bog). Eastern Ribbonsnake prefer to live in close proximity to water, particlarly marshes and areas with shallow water where opportunites to hunt frogs and fish are possible (MNRF, 2015). ESA Protection: N/A	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat.

Table 4: Species at Risk Habitat Summary

Common Name	Species Name	MNR	Key Habitats Used By Species[1]	Initial Assessment
Eastern Small-footed Bat	*Myotis Lleibii*	END	Generally occurrs in mountainous or rocky regions where it has been noted to roost in large boulders and beneath slabs of rock and stones. Hibernation is typically confined to caves and abandoned mine adits. (Best and Jennings, 1997 and MNRF, 2014)	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat.
Eastern Wood-pewee	***Contopus virens***	**SC**	**Typically associated with deciduous and mixed forests with little understory vegetation; Often found in clearings or on edges of deciduous and mixed forests (MNRF, 2015).** **ESA Protection: N/A**	**Potentially suitable habitat present on site. Species documented during breeding bird surveys within the small deciduous forest community.**
Henslow's Sparrow	*Ammodramus henslowii*	END	Nests in large, open, usually moist to wet, often flat fields with a high graminoid to forb/shrub ratio. Vegetation must be dense and over 30cm in height ESA Protection: Species and general habitat protection	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Least Bittern	*Ixobrychus exilis*	THR	Least Bittern prefer large, freshwater marshes with dense aquatic vegetation (e.g. Cattails) with interpsersed clumps of woody vegetation and open water (COSEWIC, 2001). ESA Protection: Species and general habitat protection	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat.
Little Brown Myotis	***Myotis lucifugus***	**END**	**Forests and regularly aging human structures as maternity roost sites. Regularly associated with attics of older buildings and barns for summer maternity roost colonies. Overwintering sites are characteristically mines or caves, but can often include buildings (MNRF 2014, COSEWIC 2013a).**	**There is no overwintering habitat present on site. Potentially suitable maternity roosting habitat present on site within the deciduous forest community or potentially within the old farm house attic.**
Loggerhead Shrike	*Lanius ludovicianus*	END	Generally prefer a combination of pasture or other grassland with scattered low trees and shrubs. They build their nests in small trees or shrubs.	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.

Table 4: Species at Risk Habitat Summary

Common Name	Species Name	MNR	Key Habitats Used By Species[1]	Initial Assessment
Eastern Milksnake	***Lampropeltis triangulum***	**SC**	**Eastern Milksnake commonly utilizes a wide variety of habitats. In the COSEWIC Assessment and Status report dated 2002, Milksnake is described as a species which uses everything from rock outcrops to natural meadows and agricultural hayrfields. Milksnake is also commonly identified within a broad diversity of forest types. The COSEWIC Report concludes the habitat section with the statement "It is apparent that the Eastern Milksnake can live in almost any habitat that provides shelter and a source of food" (COSEWIC, 2002b).** **ESA Protection: N/A**	**The natural areas on the property have the potential to provide habtiat for Milksnake.**
Northern Long-eared Bat	***Myotis septentrionalis***	**END**	**Maternity roost sites are generally located within deciduous and mixed forests and focused in snags including loose bark and cavities of trees. Overwintering sites are characteristically mines or caves.** **ESA Protection: Species and general habitat protection**	**There is no overwintering habitat present on site. Potentially suitable maternity roosting habitat present on site within the deciduous forest community.**
Red-Headed Woodpecker	*Melanerpes erythrocephalus*	SC	Oak and Beech Forests, graasslands, forest edges, orchards, pastures, riparian forests, roadsides, urban parks, golf courses, cemetaries, beaver ponds and burns (COSEWIC, 2007#). ESA Protection: N/A	Potentially suitable habitat present on site. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Snapping Turtle	*Chelydra serpentina*	SC	Snapping Turtle utilize a wide variety of aquatic habitat, but prefer shallow waters with abundant leaf litter. Femals travel overland during the nesting season in search of suitable nesting sites such as gravel shoulders of roadways, dams, and aggregate pite (MNRF, 2015). ESA Protection: N/A	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat.
Spotted Turtle	*Clemys guttata*	END	Marsh, swamp, fen (poor fen) Vernal pools Open areas of sand or fine gravel Rock-barren ESA Protection: Species and general habitat protection	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat.

Table 4: Species at Risk Habitat Summary

Common Name	Species Name	MNR	Key Habitats Used By Species[1]	Initial Assessment
Whip-Poor-Will	*Caprimulgus vociferus*	THR	Whip-poor-will prefer areas with a mix of open and forested habitat, open woodlands, or openings in mature forests (MNRF, 2015). ESA Protection: Species and general habitat protection	Species not expected to be present on or adjacent to the Property. Habitat is not representative of key habitat.
Wood Thrush	*Hylocichla mustelina*	SC	Typically associated with moist mature deciduous and mixed forests with a well developed understory. ESA Protection: N/A	Potentially suitable habitat present on site. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.
Yellow-breasted Chat	*Icteria virens*	SC	Early successional habitats including dense, low deciduous or coniferous vegetation (Environment Canada, 2011). ESA Protection: N/A	Potentially suitable habitat present on site. Not observed during Azimuth's 2014/2015 field investigations, including two dawn breeding bird surveys.

CRITERIA	STANDARDS	ASSESSMENT
Woodland Size Criteria		
• Size refers to the aerial (spatial) extent of the woodland (irrespective of ownership) • Woodland areas are considered to be generally continuous even if intersected by narrow gaps 20m or less in width between crown edges. • Size value is related to the scarcity of woodland in the landscape derived on a municipal basis with consideration of the differences in woodland coverage among physical sub-units (e.g., watersheds, biophysical regions). • Size criteria should also account for differences in landscape-level physiography (e.g., moraines, clay planes) and community vegetation types.	Where woodlands cover: • Is less than about 5% of land cover, woodlands 2ha in size or larger should be considered significant • Is about 5-15% of land cover, woodlands 4ha in size or larger should be considered significant • Is about 15-30% of land cover, woodlands 20ha in size or larger should be considered significant • Is about 30-60% of land cover, woodlands 50ha in size or larger should be considered significant • Occupies more than 60% of the land, a minimum size is not suggested, and other factors should be considered	The Town of Grand Valley indicates that a woodland >20ha in size would be considered significant in the municipality (Policy 4.2.1.5). The total area of the woodland unit is approximately 0.6ha. Therefore, the woodland would not be considered significant based on size criteria.
Ecological Function Criteria		
Woodland Interior		
• Interior Habitat more than 100m from the edge (as measured from the limits of a continuous woodland as defined above) is important for some species. • For purposes of this criterion, a maintained public road would create an edge even if the opening was not wider than 20m and did not create a separate woodland.	Woodlands should be considered significant if they have: • Any interior habitat where woodlands cover less than about 15% of the land cover • 2 ha or more of interior habitat where woodlands cover about 15-30% of the land cover • 8 ha or more of interior habitat where woodlands cover about 30-60% of the land cover • 20 ha or more of interior habitat where woodlands cover about 60% of the land cover	No interior habitat is present within the woodland as there are no areas more than 100m from a woodland edge. Therefore, the woodland would not be considered significant based on the presence of interior habitat.
Proximity to Other Woodlands or Other Habitats		
• Woodlands that overlap, abut or are close to other significant natural heritage features or areas could be considered more valuable or significant than those that are not. • Patches close to each other are of greater mutual benefit and value to wildlife.	Woodlands should be considered significant if: • A portion of the woodland is located within a specific distance (e.g., 30m) of a significant natural feature or fish habitat likely receiving ecological benefit from the woodland and the entire woodland meets the minimum area threshold (e.g., 0.5-20ha, depending on circumstance)	The woodland is not located in proximity to any other significant natural heritage feature. Therefore the woodland would not be considered significant.
Linkages		
• Linkages are important connections providing for movement between habitats. • Woodlands that are located between other significant features or areas can be considered to perform an important linkage function as “stepping stones” for movement between habitats.	Woodlands should be considered significant if they: • Are located within a defined natural heritage system or provide a connecting link between two other significant features, each of which is within a specified distance (e.g., 120m) and meets minimum area thresholds (e.g., 1-20ha, depending on circumstance)	The woodland does not provide a linkage function. Therefore the woodland would not be considered significant.

CRITERIA	STANDARDS	ASSESSMENT
Water Protection		
• Source water protection is important. • Natural hydrological processes should be maintained.	Woodlands should be considered significant if they: • Are located within a sensitive or threatened watershed or a specific distance (e.g., 50m or top of valley bank if greater) or a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area thresholds (e.g., 0.5-10ha, depending on circumstance)	Does not meet this criteria. Therefore the woodland would not be considered significant.
Woodland Diversity		
• Certain woodland species have had major reductions in representation on the landscape and may need special consideration. • More native diversity is more valuable than less diversity.	Woodlands should be considered significant if they have: • A naturally occurring composition of native forest species that have declined significantly south and east of the Canadian Shield and meet minimum area thresholds (e.g., 1-20ha, depending on circumstance) • A high native diversity through a combination of composition and terrain (e.g., a woodland extending from a hilltop to a valley bottom or to opposite slopes) and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance)	The woodland does not contain native species that are in significant decline, nor is it highly diverse. Therefore the woodland would not be considered significant.
Uncommon Characteristics Criteria		
• Woodlands that are uncommon in terms of species composition, cover type, age or structure should be protected. • Older woodlands (i.e., woodlands greater than 100 years old) are particularly valuable for several reasons, including their contributions to genetic, species and ecosystem diversity.	Woodlands should be considered significant if they have: • A unique species composition or the site is represented by less than 5% overall in woodland area and meets minimum area thresholds (e.g., 0.5ha, depending on circumstance) • A vegetation community with a provincial ranking of S1, S2 or S3 (as ranked by the NHIC and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance) • Habitat (e.g., with 10 individual stems or 100m^2 of leaf coverage) of a rare, uncommon or restricted woodland plant species and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance): vascular plant species for which the NHIC's Southern Ontario Coefficient of Conservatism is 8, 9 or 10; tree species of restricted distribution such as sassafras or rock elm; species existing only in a limited number of sites within the planning area • Characteristics of older woodlands or woodlands with larger tree size structure in	The woodland is not uncommon in terms of species composition, cover types (i.e., composition of ELC vegetation types), structure or age. It possesses predominantly mid-age characteristics and hence does not have old-growth/older growth characteristics. Therefore the woodland would not be considered significant.

CRITERIA	STANDARDS	ASSESSMENT
	native species meet minimum area thresholds (e.g., 1-10ha, depending on circumstance): older woodlands could be defined as having 10 or more trees/ha greater than 100 years old; larger tree size structure could be defined as 10 or more trees/ha at least 50cm in diameter, or a basal area of 8 or more m^2/ha in trees that are at least 40cm in diameter	
Economic and Social Function Values Criteria		
• Woodlands that have high economic or social values through particular site characteristics or deliberate management should be protected.	Woodlands should be considered significant if they have: • High productivity in terms of economically viable products together with continuous native natural attributes and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance) • A high value in special services such as air-quality improvement or recreation at a sustainable level that is compatible with long-term retention and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance) • Important identified appreciation, education, cultural or historical value and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance)	The woodland does not generate economically viable forest products, no formal recreational use is present, the woodland has not be identified as providing education, cultural or historical value. Therefore the woodland would not be considered significant.

SOURCE: Natural Heritage Reference Manual (OMNR 2010)

SWH Category	SWH Function	SWH Criteria	Assessment
Seasonal Concentration Area	Waterfowl Stopover & Staging Areas (Terrestrial)	Mixed waterfowl species aggregations of >100 birds within flooded field areas used annually during spring migration (mid March to May).	No suitable habitat.
	Waterfowl Stopover & Staging Areas (Aquatic)	Ponds, marshes, lakes, bays, coastal inlets & watercourses used by aggregations of > 100 of listed waterfowl for 7 days during spring and autumn migration. Listed Species: Canada Goose, Cackling Goose, Snow Goose, American Black Duck, Northern Pintail, Northern Shoveler, American Widgeon, Gadwall, Green-winged Teal, Blue-winged Teal, Hooded Merganser, Scaup (Lesser & Greater), Long-tailed Duck, Surf Scoter, Black Scoter, Ring-necked Duck, Common Goldeneye, Bufflehead, Ruddy Duck, Red-breasted Merganser, Brant, Canvasback, Redhead.	No suitable habitat.
	Shorebird Migratory Stopover Area	Shorelines of lakes, rivers and wetlands including beach areas, bars, groynes and muddy/un-vegetated shoreline habitat used by 3 or more listed species demonstrating > 1000 “shorebird use days” (i.e., accumulated number of shorebirds over the course of the spring or autumn migration period) or sites used by >100 Whimbrel for 3 or more years. Listed Species: Greater Yellowlegs, Lesser Yellowlegs, Marbled Godwit, Hudsonian Godwit, Black-bellied Plover, American Golden Plover, Semipalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Semipalmated Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird’s Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Whimbrel, Ruddy Turnstone, Sanderling, Dunlin.	No suitable habitat.
	Raptor Wintering Area	Combinations of fields and woodlands providing roosting, foraging and resting habitat utilized by at least 10 individuals of 2 listed species used regularly for at least 20 days in 3 of 5 years or used by one or more Short-eared Owls. Listed Species: Rough-legged Hawk, Red-tailed Hawk, Northern Harrier, American Kestrel, Snowy Owl, Short-eared Owl.	No suitable habitat.
	Bat Hibernacula	Caves, mine shafts, underground foundations and Kart formations utilized by bat species during winter.	No suitable habitat.
	Bat Maternity Colony	Wildlife cavity trees within deciduous or mixed forest communities having >10, large diameter (i.e., >25cm diameter at breast height) trees containing cavities or loose bark pockets of sufficient size to housing five or more adult bats	Based on our size class analysis of the FOD community, the most abundant size class is a diameter breast height (DBH) ranging from 10-24cm. Trees with a DBH of 25-50cm can be occasionally found as are standing snags. Given the required high concentration of large diameter trees containing cavities and the relatively small size of this woodlot, it is concluded that this woodlot does not provide suitable conditions for Bat Maternity Colony.
	Turtle Wintering Area	Areas of deep water associated with core habitat utilized by turtles throughout the year often in the vicinity of areas of concentrations of basking turtles noted on	No suitable habitat.

SWH Category	SWH Function	SWH Criteria	Assessment
		warm, sunny days in autumn (September – October) or spring (March – May)	
	Snake Hibernacula	Animal burrows, rock fissures and other structures that allow underground access below frost and open wetlands containing sparse trees or shrubs cover providing hummocks or depressions with sphagnum moss or sedge ground cover. Areas of observed concentrations of five or more snakes or two or more snake species observed on sunny, warm days in spring (April-May) and autumn (September-October)	Potentially suitable hibernacula associated with foundation of homestead and old outbuilding structures. However, given its proximity to potential food source (i.e. wetland), we would suggest that these locations are less than optimal.
	Colonial Bird Nesting (Bank & Cliff)	Sites with exposed soil banks either natural (mainly along shorelines, rivers) or exposed as part of aggregate extraction/material stockpiling. Presence of 1 or more nesting sites with 8 or more pairs of Cliff Swallows or > 50 Bank Swallow or Northern Rough-winged Swallow during the breeding season.	No suitable habitat.
	Colonial Bird Nesting (Tree/Shrub)	Sites having live or dead trees in wetlands, lakes, islands or peninsulas having > 5 active Great Blue Heron nests or active heronries of other species (Black-crowned Night-heron, Great Egret, Green Heron).	No suitable habitat.
	Colonial Bird Nesting (Ground)	Nesting colonies of gulls and terns on islands or peninsulas having > 25 active nests for Herring Gulls or Ring-billed Gulls or > 5 active Common Tern nests or > 2 active Caspian Tern nests or any active nests of Little Gull or Great Blacked-backed Gull. Farm ditches or streams having low shrub cover utilized by 5 or more pairs of Brewer's Blackbirds during the nesting season.	No suitable habitat.
	Migratory Butterfly Stopover Area	Meadows and thickets over 10ha in size with a combination of field and forest habitat located within 5km of Lake Ontario having > 5000 Monarch Use Days (MUD = number of days site used by Monarchs X number of Monarchs) during autumn migration (August – October) or MUD > 3000 MUD if Painted Lady or White Admiral are observed.	No suitable habitat.
	Landbird Migratory Stopover Area	Woodlots over 10ha in size located within 5km of Lake Ontario used by >200 birds/day with >35 species total with at least 10 species recorded on at least 5 different survey days during spring (April-May) and autumn (August-October) migration.	No suitable habitat.
	Deer Yarding Area	Conifer and mixed forest and swamp communities in areas typically having snow depths > 40cm for more than 60 days that are mapped as Stratum 1 (core) or Stratum 2 deer yard by the MNR and show winter accumulations of deer tracks.	No suitable habitat.
	Deer Winter Concentration Area	Large (i.e., woodlots > 100ha) conifer and mixed forest and swamp communities in areas typically having relatively low snow accumulation that are utilized during winter by > 10 deer/km^2 and identified by the MNR.	No suitable habitat.
Rare Vegetation Communities	Cliffs & Talus Slopes	Any Ecological Land Classification (ELC) vegetation type for Cliffs or Talus Slopes associated with a vertical to near vertical rock face >3m high.	Not present on site.
	Sand Barren	Area of exposed sand with sparse vegetation and underlaying rock protruding the surface in places. Site not dominated by exotic or introduces species (i.e., <50% vegetative cover by non-native plant species).	Not present on site.
	Alvar	Area of exposed calcareous bedrock sand with sparse vegetation and shallow soils. Site not dominated by exotic or introduces species (i.e., <50% vegetative cover by non-native plant species) and in excellent condition with few conflicting land uses.	Not present on site.
	Old Growth Forest	Forest communities over 30ha with at least 10ha of "100m forest interior"	Not present on site.

SWH Category	SWH Function	SWH Criteria	Assessment
		dominated by trees over 140 years old with a mosaic of gaps establishing a multi-layered canopy with no evidence of forestry activities.	
	Savannah	Tallgrass Prairie habitat having tree cover between 25% and 60%	Not present on site.
	Tallgrass Prairie	Open grassland having tree cover <25% containing one or more Prairie indicator plant species.	Not present on site.
	Other Rare Vegetation Community Type	Any ELC vegetation community having a sub-national (S Rank) of S1, S2 or S3 as assigned by the MNR.	Not present on site.
Specialized Habitat for Wildlife	Waterfowl Nesting Area	All lands adjacent (i.e., within 120m) of wetlands over 05ha in size or clusters of 3 or more small (<0.5) wetlands where waterfowl breeding is known to occur that contain 3 or more nesting pairs of listed species excluding Mallard or 10 or more nesting pairs including Mallard or any active nest site of American Black Duck. Listed Species: American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Mallard.	No suitable habitat.
	Bald Eagle & Osprey Nesting, Foraging & Perching Habitat	Forest and swamp wetlands directly adjacent to lakes, rivers, ponds and other wetlands where nesting by Osprey or Bald Eagle is confirmed. Within 300m of active Osprey nest or 400-800m of an active Bald Eagle nest.	No suitable habitat.
	Woodland Raptor Nesting Habitat	Forests and conifer plantations >30ha with >10ha of “200m interior forest habitat” containing active nests of listed species. Within 400m of an active Red-shouldered Hawk or Northern Goshawk nest or 200m of an active Barred Owl nest or 100m of an active Broad-winged Hawk or Coopers Hawk nest or 50m of a Sharp-shinned Hawk nest. Listed Species: Northern Goshawk, Cooper’s Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk.	No suitable habitat.
	Turtle Nesting Area	Areas of exposed sand and gravel in proximity to wetlands and waterbodies providing undisturbed shallow weedy areas utilized by turtles having 5 or more nesting Midland Painted Turtles or one or more nesting Northern Map Turtle or Snapping Turtle plus travel routes between wetlands and nesting areas.	No suitable habitat.
	Seeps & Springs	Forested headwaters of stream or river system containing 2 or more seeps/springs.	No seeps or springs observed on site.
	Amphibian Breeding Habitat (Woodland)	Forests and swamp wetlands containing permanent or vernal pools containing water in most years until mid-July having a breeding population of 1 or more listed species with at least 20 individuals (adults, juveniles, eggs/larval masses). Listed Species: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog.	No suitable habitat.
	Amphibian Breeding Habitat (Wetland)	Wetlands and pools (including vernal pools >0.05ha) located >120m from woodlands having a breeding population of 1 or more of the listed salamander species or 3 or more of the listed frog species with at least 20 breeding individuals or wetlands with confirmed breeding by Bullfrog. Listed Species: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bull Frog, American Toad.	Results of the amphibian surveys did not meet the criteria for significance.
Habitat of Species of	Marsh Bird Breeding Habitat	Wetlands containing 5 or more nesting pairs of Sedge Wren or Marsh Wren or	No suitable habitat.

SWH Category	SWH Function	SWH Criteria	Assessment
Conservation Concern		breeding by any combination of 5 or more of the listed species or any wetland with breeding of 1 or more Black Tern, Trumpeter Swan, Green Heron or Yellow Rail. Listed Species: American Bittern, Virginia Rail, Sora, Common Moorhen, American Coot, Pied-billed Grebe, Marsh Wren, Sedge Wren, Common Loon, Sandhill Crane, Green Heron, Trumpeter Swan, Black Tern, Yellow Rail.	
	Woodland Area-sensitive Bird Breeding Habitat	Large mature forest stands over 30ha having "200m interior habitat" with breeding pairs of 3 or more listed species or any site with breeding by Cerulean Warbler or Canada Warbler. Listed Species: Yellow-bellied Sapsucker, Red-breasted Nuthatch, Veery, Blue-headed Vireo, Northern Parula, Black-throated Green Warbler, Blackburnian Warbler, Black-throated Blue Warbler, Ovenbird, Scarlet Tanager, Winter Wren, Cerulean Warbler, Canada Warbler.	No suitable habitat.
	Open County Bird Breeding Habitat	Grasslands >30ha in size not actively used for farming (i.e., not Class 1 or 2 farmland) with breeding by 2 or more listed species or 1 or more breeding Short-eared Owls. Listed Species: Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl.	No suitable habitat.
	Shrub/Early Successional Bird Breeding Habitat	Large field areas succeeding to thicket >10 in size not actively used for farming (i.e., not Class 1 or 2 farmland) with breeding by 1 of the listed species and at least 2 of the common species of a thicket having breeding Yellow-breasted Chat or Golden-winged Warbler. Listed Species: Indicator Spp.: Brown Thrasher, Clay-colored Sparrow; Common Spp: Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher; Other Spp. Yellow-breasted Chat, Golden-winged Warbler.	The Swamp Thicket (SWT) community on-site in conjunction with adjacent early successional communities may be up to 10ha in size. Our breeding bird surveys identified Clay-coloured Sparrow and Willow Flycatcher to be utilizing the property. This does not meet the criteria for Significance.
	Terrestrial Crayfish	Meadows and edges of shallow marshes containing 1 or more individuals or chimneys of Chimney or Devil Crayfish.	No chimneys observed.
	Special Concern & Rare Wildlife Species	Site containing wildlife species having a sub-national (S Rank) of S1, S2 or S3 as assigned by the MNR.	Eastern Wood-Pewee (SC) was documented within the woodland community.
Animal Movement Corridors	Amphibian Movement Corridors	Movement corridors linking amphibian breeding habitat and summer habitat containing native vegetation and free of gaps such as fields, waterways, waterbodies or developed lands that are >200m wide and having gaps <20m wide. If following a riparian area corridor should include vegetation 15m of either side of watercourse.	No suitable habitat.
	Deer Movement Corridors	Forest habitat associated with watercourses and ridges that are >200m wide and having gaps <20m wide. If following a riparian area corridor should include vegetation 15m of either side of watercourse. Corridors leading to deer wintering yards should be unbroken by roads or residential areas.	No suitable habitat.

Reference: MNRF. 2015. Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E. Ontario Ministry of Natural Resources and Forestry, Regional Operations Division: Southern Region Resources Section, 300 Water Street, 4th Floor South, Peterborough, Ontario, Canada, K9J 8M5.

APPENDICES

Appendix A: Grand River Conservation Authority
Appendix B: Provincial Background Information
Appendix C: Municipal Background Information

APPENDIX A

Grand River Conservation Authority

THE CORPORATION OF THE
TOWN OF GRAND VALLEY
5 Main St. N., Grand Valley, Ontario, L9W 5S6
Phone: 1-519-928-5652 Fax: 1-519-928-2275
www.townofgrandvalley.ca

Corseed c/o Peter Cortellucci
2800 Highway 7,
Vaughan, ON
L4K 1P3

Corseed Farms (via peter Cortellucci email)

Innovative Planning Solutions (via Darren Vella email only)

July 11, 2017

RE: CORSEED FARMS - PLAN OF SUBDIVISION APPLICATION
COMPLETE APPLICATION REQUIREMENTS
FILE No. 22T-201502

Dear Sirs,

The Town of Grand Valley has reviewed the application and supporting materials for the Corseed Subdivision. The Town assessed the application with respect to the requirements of the Official Plan and deemed the application complete on May 20, 2016.

The Town has circulated the application and has compiled additional comments on your first submission, which are summarized in the enclosed chart.

Please ensure that all of the comments are addressed in your next submission. Should a meeting or teleconference be of assistance, please do not hesitate to contact me.

As a result of the circulation, we are not prepared to move forward to a public meeting. Please address the concerns, and resubmit.

Should you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Tracey Atkinson

Tracey Atkinson BES MCIP RPP
Planner

AGENCY	COMMENT	ACTION
Orangeville Hydro	• Lands are within Hydro One Territory • Town benefits from Orangeville Hydro as an owner and simplified process for water billing in connection with hydro	• Meeting recommended between owner and Orangeville Hydro to discuss service area amendment. Contact: George Dick (519)-942-8000
Dufferin County Emergency Management	• No comments provided to date	•
Dufferin County Public Works	• Joint TIS comments provided February 16, 2017 apply	• Address comments from February 16, 2017 letter
UGDSB	• See letter dated June 19, 2017. "Existing sidewalk along the west side of County Road 25 be extended south to connect with the proposed development"	• Sidewalk and Block to be added to plans
DPCDSB	• See letter dated May 23, 2017	• No concerns
Engineering Comments	• See letter dated July 6, 2017	• Address comments in letter
Public Works	• Street D widened to an arterial width right out to the highway	• Revise Street A and D to 26m ROW
Planning	• Please provide a density calculation with assumptions • Please provide a draft zoning by-law to refine the A-3 , "D" and EP zone on retained lands and WHPA in mixed use zone.	• Please address comments
GRCA	• See comments June 29, 2017	• Address comments in letter
Min Culture	• See letter	• Stage 2 Archeological assessment on EP lands. • MTSC concerns addressed via email dated May 18, 2016.
MNRF	• See letter dated July 28, 2016	• Address comments regarding EIS in letter dated July 28, 2016
WWTP Capacity	• EA underway.	• Surge Tank Agreement and financial commitment required.
Transportation	• Plan revised to address TMP	• No comment

Dufferin-Peel Catholic District School Board

Dufferin-Peel Catholic District School Board
40 Matheson Boulevard West, Mississauga, ON, L5R 1C5, Tel: (905) 890-1221

May 23, 2017

Tracey Atkinson
Planner
Town of Grand Valley
5 Main Street North
Grand Valley, ON L9W 5S6

Dear Tracey Atkinson:

Re: Revised Plan of Subdivision – Corseed Draft Plan
173146 County Road 25
Part of Lot 30, Concession 2
File No. 22T-2015-02, Z7-15
Town of Grand Valley, County of Dufferin

The Dufferin-Peel Catholic District School Board has reviewed the above noted application based on its School Accommodation Criteria and provides the following comments.

The applicant proposes the development of 74 single detached units which are anticipated to yield:

- 7 Junior Kindergarten to Grade 8 Students; and
- 2 Grade 9 to Grade 12 Students

The proposed development is located within the following school catchment areas which currently operate under the following student accommodation conditions:

Catchment Area	School	Enrolment	Capacity	# of Portables / Temporary Classrooms
Elementary School	St. Benedict	456	478	0
Secondary School	Robert F. Hall	825	1293	4

The Board requests that the following condition be incorporated in the Conditions of Draft approval:

1. That the applicant shall agree in the Servicing and/or Subdivision Agreement to erect and maintain information signs at all major entrances to the proposed development advising the following: "Please be advised that students may be accommodated elsewhere on a temporary basis until suitable permanent pupil places, funded by the Government of Ontario, are available." These signs, shall be to the Dufferin-Peel Catholic District School Board's specifications, at locations determined by the Board and erected prior to registration.

2. That the applicant shall agree in the Servicing and/or Subdivision Agreement to include the following warning clauses in all offers of purchase and sale of residential lots:

a) "Whereas, despite the best efforts of the Dufferin-Peel Catholic District School Board, sufficient accommodation may not be available for all anticipated students from the area, you are hereby notified that students may be accommodated in temporary facilities and/or bussed to a school outside of the neighbourhood, and further, that students may later be transferred to the neighbourhood school."

b) "That the purchasers agree that for the purpose of transportation to school, the residents of the subdivision shall agree that children will meet the bus on roads presently in existence or at another place designated by the Board."

The Board will be reviewing the accommodation conditions in each Education Service Area on a regular basis and will provide updated comments if necessary.

Yours sincerely,

Keith Hamilton
Planner
Dufferin-Peel Catholic District School Board
(905) 890-0708, ext. 24224
Keith.hamilton@dpcdsb.org

UPPER GRAND DISTRICT SCHOOL BOARD
500 Victoria Road North, Guelph, Ontario N1E 6K2
Phone: (519) 822-4420 Fax: (519) 822-2134

Martha C. Rogers
Director of Education

June 19, 2017

PLN: 17-57
File Code: R14
Sent by: mail & email

Tracey Atkinson
Town Planner
Town of Grand Valley
5 Main St. N
Grand Valley, ON L9W 5S6

Dear Ms. Atkinson;

Re: **REVISED - 22T-201601, Corseed Farm**
Part of Lot 30, Concession 2, Town of Grand Valley

Planning staff at the Upper Grand District School Board has received and reviewed the revised draft plan of subdivision for the Corseed Farm property in the south end of Grand Valley. The revisions reflect a future road outside of the settlement area per the Town's Transportation Master Plan.

Please be advised that the Board does not object to the revised submission. In order to best manage student enrolment generated from this development, we have designated this area as a Development Area (DA). A DA is a geographically distinct area within the board which does not form part of a school attendance area. Students from these areas are assigned temporary accommodation at holding schools that have space available, and temporary school assignments are reconsidered each year.

Our standard conditions referenced in our original comments regarding this application (letter dated May 12, 2016) remain applicable. These conditions are as follows:

- Education Development Charges shall be collected prior to the issuance of a building permit
- The developer agrees to provide the Upper Grand District School Board with a digital file of the plan of subdivision in either ARC/INFO export or DWG format containing parcel fabric and street network
- That adequate sidewalks, lighting, and snow removal is provided to allow children to walk safely to school or to a congregated bus stop
- The developer and the Upper Grand District School Board reach an agreement regarding the supply and erection of a sign (at the developers expense and according to the Board's specifications) affixed to the permanent development sign advising prospective residents that students may be directed to schools outside the neighbourhood
- The developer agrees in the subdivision agreement to advise all purchasers of residential units and/or renters of same, by inserting the following clause in all offers of Purchase and Sale/Lease, until such time as a permanent school is assigned:

"Whereas the Upper Grand District School Board has designated this subdivision as a Development Area for the purposes of school accommodation, and despite the best efforts of the Upper Grand District School Board, sufficient accommodation may not be available for all anticipated students from the area, you are hereby notified that students may be accommodated in temporary facilities and/or bussed to a school outside the area, and further, that students may in future have to be transferred to another school."

Furthermore, we would recommend that, in the interest of community connectivity and to facilitate student walking routes to school, the existing sidewalk along the west side of County Road 25 be extended south to connect with the proposed development.

Should you require additional information, please feel free to contact me.

Sincerely,

Emily Bumbaco
Planning Technician
emily.bumbaco@ugdsb.on.ca

400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519.621.2761 **Toll free:** 866.900.4722 **Fax:** 519.621.4844 **Online:** www.grandriver.ca

June 29th, 2017

Tracey Atkinson
Town of Grand Valley
5 Main Street North
Grand Valley, ON L9W 5S6

Dear Ms. Atkinson,

Re: Corseed Draft Plan of Subdivision
Part of Lot 30, Concession 2, former Township of East Luther, Town of Grand Valley

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The Grand River Conservation Authority has received the following plans and reports submitted in support of the Corseed Draft Plan of Subdivision:

- Functional Servicing Report – Valdor Engineering March 2016 (Peter Zourntos, principal; Bill Coffey, head of Water Resources, plus Ary Rezvanifar and Oliver Beaudin)
- Hydrogeological Study – GM Blueplan March 2016 (Matt Long, Matthew Nelson)
- Environmental Impact Study, March 2016, Part Lot 30, Concession 2, Township of East Luther, Town of Grand Valley, County of Dufferin. Azimuth Environmental Consulting (Lisa Moran)

At this time, we ask that the following information be provided or clarified prior by the applicant prior to draft plan approval.

Engineering – Floodplain Assessment

- Before we can approve the proposed floodline mapping of Figure 6, we need a floodline analysis that is compliant with MNR technical guidelines for floodline mapping. This requires surveyed cross-sections and structures, particularly at Highway 25 which controls backwater flood elevations downstream of the subject property. If available, cross-sections geometry can also be derived from 1:2000 or larger scale topographic maps, or through use of photogrammetric methods and digital terrain models if subject to ground-truthing with suitably selected survey points. Regardless of the source of overbank geometry, surveying of banks and channel bed are required in areas where floodplains are classified as engineered.

- In order to review the requested analysis we will need a digital copy of its associated HECRAS hydraulic model with the following noted in the model's internal description box: identification of the consulting company, the project, the source of flow data, and methods used to create cross-sections.

- For floodplain mapping purposes we find the transposed flows derived for the subcatchment area nodes in Table D.11 to be reasonable. However, using standard floodplain modelling methodology we are unable to accept hydraulic models that have flow changes at every cross-section. As stream flows in each channel reach are dependent on inflow at subcatchment tributary points, please apply these to the hydraulic model without interpolating minor flow changes at every cross-section. This is achieved by applying flow at the downstream limit of a catchment to every cross-section within that catchment. This process is repeated in the same manner for each sequentially preceding subcatchment node within the study limits. The result should be as follows:

Node	Cumulative Area (km^2)	Cross-sections	Flow (m^3/s)
1	20.3	Upstream of 28	71.3
2	22.9	24 to 28	78.1
3	26.4	18 to 23	86.9
4	30.4	13 to 17	96.6
5	32.7	1 to 12	102

- An electronic copy of the floodplain hydraulic model is required along with a separate design brief, i.e. separate from the functional servicing report, to enable revision of the existing floodplain and its reclassification as "engineered". As it is necessary for an approved floodline to be shown on the draft plan, this will be required before final design.

- If the analysis is sufficient for the resultant floodplain to be classified as engineered, there will be a 5m horizontal development setback limit. If the analysis does not meet MNR

technical standards for floodplain mapping, then the floodline will be classified as approximate with a 15m development setback.

- GRCA has surveyed cross-sections, a hydraulic model and a January 2006 Floodplain Analysis previously used to approximate a Regulatory Floodline on the adjacent Boyne Creek Property immediately west of the proposed development parcel. On request we can provide this information to assist with possible refinement of cross-section station elevations west of the Coreseed property, as well as revision of some sections immediately upstream and downstream of the property.

Engineering – Stormwater Management

- Typo: Section 10.0 states that the SWM pond will be designed for MOE Normal water quality treatment. Section 5.2, SWM Design Criteria, specifies an MOE Enhance level of treatment. We support selection of the MOE Enhanced level as has been applied to the proposed SWM facility design.

- Section 5.3.4 of the SWM report proposes thermal mitigation though use of a bottom draw pipe for SWM facility discharge as well as a planting strategy that promotes shading of the facility perimeter. However, given the 0.3m deep water that will exist in the proposed constructed wetland SWM facility, a bottom draw pipe will be ineffective. Significant volumes of water at depths greater than 1.5m are needed for cool water to be available during summer months. Also, perimeter shading takes considerable time to establish and is known to have limited benefit unless ponds are very narrow.

- As an MOE constructed wetland has been proposed for water quality treatment, the emergent aquatic vegetation required for a wetland to function satisfactorily, can be considered sufficient for cooling stormwater that will be discharged toward Boyne Creek's warm water aquatic habitat. A suitable planting plan provided in the final design can therefore satisfy any concerns for temperature mitigation.

- The forebay needs a cleanout frequency estimate and a calculation of average velocity.

- We recommend increasing the depth of the forebay such that it is a minimum 1m at deep at cleanout time.

- Using the proposed 5m average bottom width, with 3:1 side slopes and a 1m depth, we find that average velocity will be almost double the MOE recommend maximum of 0.15/s which is needed to ensure that captured sediment is not resuspended by inflow from the storm sewer. Please reconfigure the forebay to ensure that average velocity is minimized when its depth is reduced to its cleanout condition.

- Also grading should be such that major flows exceeding storm sewer capacity will bypass the forebay.

- We concur with the water balance calculations and support the proposed sizing of any infiltration measures at the detailed design stage.

Engineering – Advisory Comments

- As oil and grit separators are known to effectively capturing coarse sediment, some municipalities now prefer these to be used in place of forebays.

Natural Heritage

- Section 8.1 Wetland, the report identifies that no development is planned within the delineated wetland but fails to identify and interpret a wetland buffer or setback dimension. The EIS should be amended to identify how a buffer/setback dimension was selected, what treatment the buffer/setback will receive and what development is taking place adjacent to the wetland and what direct and indirect impacts this will have.

- 9.1.1 Setbacks, the EIS fails to identify a wetland setback dimension. This should be amended before advancing to detailed design stage. The EIS fails to identify and interpret grading requirements and impacts. This should be amended.

Natural Heritage – Advisory Comments:

- Section 8.3 Habitat of Endangered and Threatened Species, Bobolink and Eastern Meadowlark, the report does not identify what mitigation measures have been incorporated into the proposed development to avoid impacts and ensure compliance with the provincial ESA. Both species were confirmed within the existing wetland habitat of which the MNRF considers within 300m of the active area or central portion of the habitat to be general habitat and recommended for protection. The detailed subdivision plan should include supporting correspondence from the MNRF that the proposed plan is in compliance with the ESA.

- Section 8.3 Habitat of Endangered and Threatened Species, Endangered Bat Species (Northern Myotis and Little Brown Myotis), potential roosting habitat should be confirmed through proper assessment before buildings are removed.

We wish to advise that the applicant has submitted payment with respect to the comments provided and the remaining 30% ($3345.5) will be required prior to draft plan approval.

Should you have any questions, please contact the undersigned at 519-621-2763 ext. 2236.

Yours truly,

Nathan Garland
Resource Planner
Grand River Conservation Authority

c.c. IPS Consulting Inc. c/o Darren Vella – 150 Dunlop Street East, Suite 201, Barrie, ON L4M 1B2
Bill Coffey - Valdor Engineering Inc., 741 Rowntree Dairy Road, Suite 2, Woodbridge, ON L4L 5T9
Matthew Nelson – GM Blue Plan, 1260-2nd Ave. E., Unit 1, Owen Sound, ON N4K 2J3
Lisa Moran – Azimuth Environmental, 642 Welham Road, Barrie, ON L4N 9A1

Comments on joint TIS for Moco + Corseed

DUFFERIN COUNTY

PUBLIC WORKS

February 16, 2017

Town of Grand Valley
5 Main Street, North.,
Grand Valley,
L9W 5S6

Attention: Tracey Atkinson
Planner
Town of Grand Valley

Reference: Town of Grand Valley – Moco Plan of Subdivsion,
Residential – Circulation for Comments
22T-201502, Z2-15
Second Submission – January 10, 2017

The County of Dufferin Public Works Department has completed a review of the second submission package, dated January 10, 2017, for the above noted Plan of Subdivision. This includes review of the revised December 21, 2016 Traffic Impact Study, by JD Engineering.

Some of the comments below relate to outstanding items from those submitted on September 22, 2015. Reference to the original comment is provided for continuity.

1. The additional lands owned by the developer are unaccounted in the revised TIS. It should be confirmed whether development of these lands is planned within the next 10 years. (refer to comment #3 from September 22, 2015)

2. The TIS now indicates that a NB left turn lane is warranted under 2031 traffic conditions. This improvement will be a requirement of the development. (refer to comment #9 from September 22, 2015)

3. The sight distance analysis indicates that a speed reduction is required for the Industrial Road/Corseed access due to sight distance constraints. In line with a recent speed limit reduction on all roads within the village of Grand Valley to 40 km/hr, the speed transition zone on Dufferin Road 25 was also revised accordingly. The sight analysis should be considered against this recent change in speed limit to determine whether further adjustments would be still be required. The proposed location for the Corseed Farm access is acceptable as it correlates well to Industrial Road. (refer to comment #10 from September 22, 2015)

4. The access point for the residential development is shown as the single Moco South access. A future Moco North access is shown for the mixed-use development to the north of the property. There is very little information speaking to the Moco North access and this future development. There does not appear to be any interconnection between the two, nor any effort made to provide a single access to the development. There has been no clear justification of the need for two entrances to the development. This should be reviewed.

5. The proposed Moco South intersection does not satisfy County sightline standards. In line with this, a recommendation has been made to install a Hidden Intersection sign. This is not an acceptable solution for a new intersection as an optimal location can very likely be achieved. Dufferin Public Works acknowledges that the current Moco South access correlates to a Future Collector Road illustrated in Appendix I of the current draft of the Grand Valley Master Transportaion Plan. The details in this Plan have likely been completed at the Planning level and detailed review and design would be required prior to approval of any access or major intersection. Because of this, the location of the Moco South access requires further review.

6. The draft plan shows the proposed intersection of Street C and Street A within an insufficient offset from Dufferin Road 25. This should be reviewed.

The comments above refer to the revised Traffic Impact Study as prepared December 21, 2016. Once the comments above have been incorporated into an updated study, further review will be required and additional comments may be provided.

Please contact the undersigned with any questions.

Regards,

Scott Burns, P.Eng., C.E.T.
Director of Public Works and County Engineer

R.J. Burnside & Associates Limited 15 Townline Orangeville ON L9W 3R4 CANADA
telephone (519) 941-5331 **fax** (519) 941-8120 **web** www.rjburnside.com

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

July 6, 2017

Via: Email

Ms. Tracey Atkinson, MCIP, RPP, Planner
Town of Grand Valley
5 Main Street North
Grand Valley ON L9W 5S6

Dear Tracey:

Re: Corseed Inc.
Proposed Draft Plan of Subdivison
Project No.: 300036376.0000

We are hereby providing our comments on the proposed Corseed Subdivision.

Lot Fabric and Draft Plan

- The acute angle between Streets D and E is approximately 60 degrees, which is at least 10 degrees too sharp to comply with geometric standards, particularly when one of the streets is a Collector Road.

- The minimum offset between local streets is typically set at 60 m, which is not met between Streets A and D.

- A 26 m Collector Road was discussed at the pre-consultation meeting of October 7, 2014 as well as in June 2016. In our opinion the intent of a collector road in those discussions has not been fulfilled. We suggest that Streets A, B, and E could be linked to form a continuous 26 m wide collector road.

- It is not clear whether the current draft plan is supported by the EIS, as there have been changes to the SWM pond and road network in the area of the wetland. There are also ongoing requirements from GRCA that may affect the lot fabric of the subdivision.

- A 0.3 m reserve should be included on the plan where the Mixed Use blocks are adjacent to the County Road.

- Further consideration should be given to the location and size of the parkland, in light of the revisions that are being made on the west side of the plan. There may be benefit in locating the park in the vicinity of the stormwater pond in an area that also has access to the rail trail.

We note that its area proposed currently is less than the statutory reference to 5% of the area of the draft plan

- The requirement for a fencing plan should be a condition of draft plan approval.
- The labelling of "Other Lands Owned by Applicant" raises some questions:
  - The key map depicts the Moco Farms lands as being owned by the same applicant, while we had been of the understanding that Moco and Corseed had related but different ownership.
  - According to our property mapping, Corseed Inc is the owner of the entire parcel located south of Block 79, but those lands are shown only as "Existing Agricultural Lands" on the Draft Plan.
  - Block 80 is labelled "Other Lands Owned by Applicant" which is unusual for a block that is internal to the plan.
- The draft plan shows future road access to the south at a location that connects to the Existing Agricultural Lands that are also owned by Corseed. It is most likely that road access will first be required by the lands east of the Corseed property having frontage onto County Road 25.

Sanitary System

- Currently, the Town does not have available capacity at its wastewater treatment plant to accommodate this subdivision, as acknowledged in the Functional Servicing Report.
- This subdivision is dependent on the construction of downstream sewers and a pumping station to be located on the Moco Farms subdivision lands, also as noted in the Functional Servicing Report.
- Revise the sanitary sewer outlet grade from the rear of the subdivision (Lot 27) to County Road to 0.5% in order to reduce the depth of sewer at this intersection from 8 m to 6.2 m.
- We do not expect the County will permit the sanitary sewer be constructed on the travelled portion of the roadway. This sewer will need to be designed and constructed and not disrupt traffic flow on the County Road.

Water System

- The Well Head Protection Area associated with existing municipal wells should be shown on the draft plan.

- As discussed at the pre-consultation meeting on October 7, 2014 and as noted in the FSR, the Town has limited availability of water supply for new developments. The Corseed subdivision is one of a number of developments that are expected to ask the Town for allocation of the available supply. The Town has now commenced a Master Plan Class EA to address its water supply needs.

- Also, as noted in the FSR, the Town also requires additional water storage and external watermains to service this development. The Town's Master Plan is also addressing this matter.

Stormwater System

- The FSR indicates that Quantity Control requirements of the Town and GRCA require control of the 2-100 year design storms. I was unable to find such a requirement in the Grand Valley Engineering Standards. The GRCA criteria for developments draining into the Grand River upstream of control dams is not the same as in other places. The Town generally defers to GRCA on this matter, providing there has been consideration of the routing between the development and the river.

- The FSR predated the current draft plan and changes have been made in the area of the SWM pond, so no review of details was possible. These details can be sorted out when the fabric of the draft plan takes its final shape. Rough grading plans will be needed to examine the inter-relationships of the pond, wetland, and roads at the west end of the plan.

- The Town's Engineering Standards require storm sewers on Collector Roads to be designed for a 10 year storm frequency.

- The FRS requires a great amount of fill to be imported to the site, and in particular to the Mixed Use blocks because of the need to direct water to the storm water pond. The report should include consideration of alternatives.

Traffic Impact Study and Transportation

- The Traffic Study did not reflect the pre-submission consultation of October 7, 2014, which included the requirement for a 26 m Collector Road through the development.

- The TIS should look holistically at how the development fits into the community. The timing of the Mixed Use blocks is irrelevant to the impact they will have so the TIS should include the entire draft plan and should not defer consideration of the Mixed Use blocks to future independent studies.

- Section 6.1 should be revised to bring the road base up to Town standards.

- The active transportation requirements will include the need to extend a sidewalk along County Road 25 and should also discuss access to the trail system.

Please let us know if additional explanation or a meeting is required.

Yours truly,

R.J. Burnside & Associates Limited

Gord Feniak, P.Eng.
GF:sr

Corseed_ltr_170705
06/07/2017 10:52 AM

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

April 10, 2018 AEC 14-146

Corseed Development
c/o Innovative Planning Solutions
150 Dunlop Street East, Suite 201
Barrie, Ontario
L4M 1B2

ATTN: Darren Vella, President and Director of Planning

Re: **Response to Grand River Conservation Authority comments concerning the Corseed Draft Plan Subdivision, Part of Lot 30, Concession 2, Town of Grand Valley, County of Dufferin**

Dear Mr. Vella:

Azimuth Environmental has reviewed the comments provided by the Grand River Conservation Authority (GRCA) in their June 29th, 2017 letter regarding the Corseed Draft Plan of Subdivision. We provide the following information to address the following comments (italicized) regarding Natural Heritage components of the submission:

1) *Section 8.1 Wetland, the report identifies that no development is planned within the delineated wetland but fails to identify and interpret a wetland buffer or setback dimension. The EIS should be amended to identify how a buffer/setback dimension was selected, what treatment the buffer/setback will receive and what development is taking place adjacent to the wetland and what direct and indirect impacts this will have.*

Within the proposed development concept, a large block of land (Block 2 and Block 4– Open Space) will serve as a buffer to the wetland for residential lots 1-5 and 95.

The setback/buffer between the development envelope and the eastern wetland edge ranges from ~0-30m. Part of the rationale for having a limited wetland buffer is the presence of wetland communities along the eastern wetland edge which are not

considered highly sensitive to hydrological change [TRCA 2017 (Wetland Water Balance Risk Evaluation)]. The majority of the eastern wetland edge (~75%) is comprised of wetland communities with a low sensitivity (SWT2-5 & MAM2-2), while approximately 25% of the eastern wetland edge is comprised of a community with medium sensitivity (SWT2-2).

It is our understanding that, where 0m setbacks occur, these are represented by 'backyard' spaces or a Stormwater Management (SWM) block abutting the edge of wetland communities. Placing backyard or SWM spaces adjacent to the wetland adjacent does not necessarily represent a direct impact to the subject wetland community. The placement of boundary fences should mitigate potential direct impacts to the subject wetland communities by preventing post-construction encroachment by future residents and land use.

Where wetland buffer areas exceed 0m from the adjacent residential lots/street (Figure 3, 'Block 2 and 4 – Open Space'), these buffer areas should be planted in native species cover to reduce potential encroachment and degradation of the wetland by future residents of the subdivision.

2) *9.1.1 Setbacks, the EIS fails to identify a wetland setback dimension. This should be amended before advancing to detailed design stage. The EIS fails to identify and interpret grading requirements and impact. This should be amended.*

See response above to comment 1 regarding wetland setback dimensions. Based on the current Functional Servicing Report prepared by Valdor Engineering Inc., grading would not be expected to encroach onto wetland edges. All lots adjacent to the delineated wetland limit will be graded to match the existing grade. Any construction and grading activities should employ sediment control measures that prevent runoff of sediment into nearby wetland community during storm events.

3) *Section 8.3 Habitat of Endangered and Threatened Species, Bobolink and Eastern Meadowlark, the report does not identify what mitigation measures have been incorporated into the proposed development to avoid impacts and ensure compliance with the provincial ESA. Both species were confirmed within the existing wetland habitat of which the MNRF considers within 300m of the active area or central portion of the habitat to be general habitat and recommended for protection. The detailed subdivision plan should include supporting*

corresponding from the MNRF that the proposed plan is in compliance with the ESA.

While these species have been observed on the property, breeding evidence is not considered conclusive. Bobolink were considered probable breeders, and were associated with southwestern corner of the property. Proposed development would not interfere with potential breeding activity documented in such areas. Further, Eastern Meadowlark observations were limited to a single singing male along the northwestern property boundary, which not support a conclusion of probable or confirmed breeding. The area where this individual was observed would also be maintained under the proposed development.

An IGF, containing information related to Bobolink/Meadowlark, has been prepared and will be submitted to MNRF. The purpose of the IGF is to provide MNRF with relevant SAR information and to determine how to proceed with the proposed development in order to avoid contravention with Ontario's Endangered Species Act.

4) *Section 8.3 Habitat if Endangered and Threatened Species, Endangered Bat Species (Northern Myotis and Little Brown Myotis), potential roosting habitat should be confirmed through proper assessment before buildings are removed.*

Utilizing the MNRF Survey Protocol for Species at Risk Bats within Treed Habitats (2017), Azimuth has conducted additional field studies related to potential bat habitat within the isolated woodlot (January 2018). Field surveys (acoustic monitoring) are scheduled for June/July 2018 within the woodlot to confirm presence/absence of SAR bats.

Utilizing the MNRF's Use of Buildings and Isolated Trees by Species at Risk Bats Survey Methodology (2014), Azimuth conducted an evening visual and acoustic survey related to the structures present on the property (July 2017). The survey did not reveal the presence of SAR bats within any of the anthropogenic structures on the property.

An Information Gathering Form (IGF), containing information related to SAR bats, has been prepared and will be submitted to MNRF. The purpose of the IGF is to provide MNRF with relevant SAR information and determine how to proceed with the proposed development in order to avoid contravention with Ontario's Endangered Species Act.

We trust that the information provided addresses the comments provided by the GRCA in their aforementioned letter. Should you require further information, or have any questions regarding the natural history of the property, please contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Lisa Moran, B.Sc.Env
Terrestrial Ecologist

Attach: Figure 3: Proposed Development Plan

LEGEND:

- *Approx. Property Boundary*
- *Watercourse*
- *Floodplain (GRCA)*

25m 0 75m

HORIZONTAL SCALE 1:2,500

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Proposed Development Plan

County Rd. 25,
Grand Valley, ON

DATE ISSUED:	*July 2015*	Figure No.
CREATED BY:	*JLM*	3
PROJECT NO.:	*14-146*	
REFERENCE:	*First Base Solutions*	

DAYSTAMP: M:\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg

Plotted by: JMCCARTNEY on April 6, 2018 at 3:57pm
File: \\adlmuthsrv2\Data2\projects2\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg Layout: EIS3 Plotscale: 0.5

400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519.621.2761 **Toll free:** 866.900.4722 **Fax:** 519.621.4844 **Online:** www.grandriver.ca

June 19, 2018

Tracey Atkinson
Town of Grand Valley
5 Main Street North
Grand Valley, ON L9W 5S6

Dear Ms. Atkinson,

Re: Corseed Draft Plan of Subdivision – 2nd Submission
Part of Lot 30, Concession 2, former Township of East Luther, Town of Grand Valley

---

The Grand River Conservation Authority has received the following plans and reports submitted in support of the Corseed Draft Plan of Subdivision:

- Response Letter, prepared by Azimuth Environmental Consulting Inc., dated April 10, 2018;
- Draft Plan of Subdivision, prepared by IPS, dated December 7, 2017;
- Functional Servicing Report, prepared by Valdor Engineering Inc., dated March 2018.

At this time, we ask that the following information be provided or clarified by the applicant prior to draft plan approval.

Engineering – Stormwater Management

- Comment #6 under the SWM section has not been addressed. We need more clarification regarding the calculations for average velocity in the forebay. Based on the revised report, using the proposed 5m average bottom width, with 3:1 side slopes and a 1m depth (cross-sectional area of ~8 m2 vs 17.1 m2 referenced in the FSR) we find that average velocity will still be greater than the MOE recommend maximum of 0.15 m/s. Please reconfigure the forebay to ensure that average velocity is minimized when its depth is reduced to its cleanout condition.

Natural Heritage

- Reply to Review Comment #1, the application of a wetland buffer ranging from 0 – 30m is not acceptable. The 2017 TRCA Wetland Water Balance Risk Evaluation is not appropriate for determining wetland buffer dimensions and treatments. The use of rear lot fencing is encouraged to limit encroachment and future impacts to the wetland. A 30m wetland buffer would be suitable with a minimum 10m no-touch setback from the confirmed wetland boundary. All rear lot lines should be located outside of the minimum 10m setback. The remaining 20m dimension could potentially support limited grading, SWM infrastructure, and enhanced vegetation plantings.

Natural Heritage – Advisory Comments:

- Reply to Review Comment #3, the proposed setback/buffer dimensions and lot configuration should be deferred until confirmation from MNRF regarding ESA species is received. Compliance with ESA species and habitat criteria potentially could influence buffer dimensions and treatment.

We wish to advise that the applicant has submitted payment with respect to the comments provided and the remaining 30% ($3345.5) will be required prior to draft plan approval.

Should you have any questions, please contact the undersigned at 519-621-2763 ext. 2320.

Yours truly,

Jason Wagler, MCIP RPP
Resource Planner
Grand River Conservation Authority

c.c. IPS Consulting Inc. c/o Darren Vella – 150 Dunlop Street East, Suite 201, Barrie, ON L4M 1B2
Bill Coffey - Valdor Engineering Inc., 741 Rowntree Dairy Road, Suite 2, Woodbridge, ON L4L 5T9
Matthew Nelson – GM Blue Plan, 1260-2nd Ave. E., Unit 1, Owen Sound, ON N4K 2J3
Lisa Moran – Azimuth Environmental, 642 Welham Road, Barrie, ON L4N 9A1

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

October 23, 2018 AEC 14-146

Corseed Development
c/o Innovative Planning Solutions
150 Dunlop Street East, Suite 201
Barrie, Ontario
L4M 1B2

ATTN: Darren Vella, President and Director of Planning

Re: **Response to Grand River Conservation Authority comments concerning the Corseed Draft Plan Subdivision, Part of Lot 30, Concession 2, Town of Grand Valley, County of Dufferin**

Dear Mr. Vella:

Azimuth Environmental has reviewed the comments provided by the Grand River Conservation Authority (GRCA) in their June 19th, 2018 letter regarding the Corseed Draft Plan of Subdivision. We provide the following information to address the following comments (italicized) regarding Natural Heritage components of the submission:

1) *Reply to Review Comment #1, the application of a wetland buffer ranging from 0 – 30m is not acceptable. The 2017 TRCA Wetland Water Balance Risk Evaluation is not appropriate for determining wetland buffer dimensions and treatments. The use of rear lot fencing is encouraged to limit encroachment and future impacts to the wetland. A 30m wetland buffer would be suitable with a minimum 10m no-touch setback from the confirmed wetland boundary. All rear lot lines should be located outside of the minimum 10m setback. The remaining 20m dimension could potentially support limited grading, SWM infrastructure, and enhanced vegetation plantings.*

Based on GRCA's most recent comments (June 2018), the Corseed Draft Plan of Subdivision has been updated (Figure 3). As per GRCA request, a 10m no touch setback from the limits of the wetland has been provided. Adjacent to the 10m wetland setback within the northern 2/3 of the boundary is a proposed stormwater management block

(Block 7; Figure 3). Residential lots will abut the stormwater management block and will be located >30m from the wetland. Stormwater infrastructure was listed as a potential use by GRCA outside of this 10m setback. Although not a natural feature, a properly managed stormwater management pond can represent a relatively benign use on the landscape and in many respects, function to provide habitat for local wildlife, much like a natural wetland community. Stormwater controls should be implemented to meet Ministry of the Environment and Climate Change standards for water quality and quantity.

Five lots along the southern 1/3 of the wetland will abut the 10m wetland setback. The 10m buffer will provide a screen to adjacent residential development and will aid in the attenuation of any potential excess nutrients and pollutants that may migrate towards the wetland community. The 10m setback is sufficient to protect the critical root zone of the vegetation within the delineated wetland feature. The homes within these five lots will front onto Street "B" and will be located at least 30m from the wetland itself therefore; the backyard amenity space would abut the 10m setback.

The 10m setback along the entire wetland should be delineated by a fence to prevent encroachment into the wetland buffer. The 10m buffer should be composed of native self-sustaining vegetation. Opportunity exists to further enhance the buffer area with native shrub/tree planting. The above recommended mitigation measures will reduce potential encroachment and degradation of the wetland by future residents of the subdivision.

2) *Natural Heritage – Advisory Comments Reply to Review Comment #3, the proposed setback/buffer dimensions and lot configuration should be deferred until confirmation from MNRF regarding ESA species is received. Compliance with ESA species and habitat criteria potentially could influence buffer dimensions and treatment.*

The proponent is aware that consultation with MNRF regarding potential Species at Risk is required prior to any site alteration or development to ensure compliance with Ontario's *Endangered Species Act*. We would suggest that the requirement for written confirmation from MNRF regarding Species at Risk is a condition of Draft Plan approval and should not delay discussions surrounding the wetland buffer.

We trust that the information provided addresses the comments provided by the GRCA in their aforementioned letter. Should you require further information, or have any questions regarding the natural history of the property, please contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Lisa Moran, B.Sc.Env
Terrestrial Ecologist

Attach: Figure 3: Proposed Development Plan

LEGEND:

- *Approx. Property Boundary*
- *Watercourse*
- *Floodplain (GRCA)*

25m 0 75m

HORIZONTAL SCALE 1:2,500

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Proposed Development Plan

County Rd. 25,
Grand Valley, ON

DATE ISSUED:	*October 2018*	Figure No.
CREATED BY:	*JLM*	3
PROJECT NO.:	*14-146*	
REFERENCE:	*First Base Solutions*	

DAYSTAMP: M:\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg

Plotted by: JMCCARTNEY on September 25, 2018 at 11:12am
File: \\azimuthenv2\Data2\projects2\14 Projects\14-146 Coreseed EIS\04.0 - Drafting\14-146.dwg Layout: EIS3 Plotscale: 0.5

400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519.621.2761 **Toll free:** 866.900.4722 **Fax:** 519.621.4844 **Online:** www.grandriver.ca

January 18, 2019

Mark Kluge
Town of Grand Valley
5 Main Street North
Grand Valley, ON L9W 5S6

Dear Mr. Kluge,

Re: Corseed Draft Plan of Subdivision 22T-201502 – 4th Submission
Part of Lot 30, Concession 2, former Township of East Luther,
Town of Grand Valley, County of Dufferin

Grand River Conservation Authority (GRCA) staff have reviewed the following information submitted in association with the proposed development:

- Response Letter, prepared by Azimuth Environmental Consulting Inc., dated October 23, 2018
- Draft Plan of Subdivision, prepared by IPS, dated October 15, 2018;
- Functional Servicing Report, prepared by Valdor Engineering, revised October 2018.

At this time, we ask that the following information be provided or clarified by the applicant prior to draft plan approval.

Comments to be Address Prior to Detailed Design:

Natural Heritage:

1. For this particular development, GRCA staff recommended a 30m wetland buffer. The buffer could support a 10m no-touch development setback adjacent to the proposed SWM pond. However, the draft plan of subdivision shows the proposed Lots 59 – 64 are extending into the recommended 30m buffer with the rear lots ending at the extent of a 10m wetland setback. The 10m wetland setback for these lots is not satisfactory. If a complete 30m wetland buffer is not achievable then the EIS should be amended to provide a rational and prescription of the reduced buffer with enhancements. Minor reductions of the 30m buffer could be offset with enhanced vegetation treatments, and rear lot fencing should be explored.

2. The proponents understand that compliance with the Endangered Species Act (ESA) is still outstanding and has the potential to influence the development configuration. They have recommended that species at risk confirmation from MNRF be made a condition of draft plan approval. However, GRCA maintains the opinion that compliance with ESA species and habitat criteria could potentially influence buffer dimensions and enhancements. As such, GRCA recommends the proposed setback/buffer dimensions

and lot configuration be deferred until confirmation from MNRF regarding ESA species is received

Advisory Comments for Detailed Design:

3. The Regulatory Floodplain was not indicated on the draft plan and should be shown at detailed design.

Advisory Comments to the Municipality:

4. There is a minor error on page 15 of the Functional Servicing Report. The table for the SWM Facility Permanent Pool Volume Calculation states imperviousness is 68%, however based on the MOECC SWM Planning and Design Manual, 2003, this would correspond to a volume less than the 225m^3/ha. This error does not impact the final design as more than enough volume is provided, but the discrepancy should be clarified.

We wish to advise that the applicant has submitted payment with respect to the comments provided and the remaining 30% ($3345.5) will be required prior to draft plan approval.

We trust that this information is of assistance. Should you have any questions, please contact Laura Warner at 519-621-2763 ext. 2231.

Sincerely,

Fred Natolochny, MCIP RPP
Supervisor of Resource Planning
Grand River Conservation Authority
FN/lw

c.c. IPS Consulting Inc. c/o Darren Vella – 150 Dunlop Street East, Suite 201, Barrie, ON L4M 1B2
Bill Coffey - Valdor Engineering Inc., 741 Rowntree Dairy Road, Suite 2, Woodbridge, ON L4L 5T9
Matthew Nelson – GM Blue Plan, 1260-2nd Ave. E., Unit 1, Owen Sound, ON N4K 2J3
Lisa Moran – Azimuth Environmental, 642 Welham Road, Barrie, ON L4N 9A1

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

September 10, 2014 AEC 14-146

Grand River Conservation Authority
400 Clyde Road,
PO Box 729
Cambridge, Ontario
N1R 5W6

ATTN: Andrew Herreman, Resource Planner

Re: **Terms of Reference for Environmental Impact Study (Coreseed Development)**
Part of Lot 30, Concession 2
Township of East Luther – Grand Valley, County of Dufferin

Dear Mr. Herreman:

Azimuth Environmental Consulting Inc. (Azimuth) has been retained to complete an Environmental Impact Study (EIS) for a proposed development on the abovementioned property (Figure 1). It is our understanding that a portion of the property is regulated by the Grand River Conservation Authority (GRCA) according to Ontario Regulation 150/06 due to the presence of floodplain. It is our understanding that an EIS is required as a portion of the property has been identified for Environmental Conservation. Lands adjacent to the property have been designated as Environmental Protection.

Currently, a large portion of the site is in agricultural use. A small woodlot exists at the southern limit of the property. The western portion of the property is composed of cultural meadow/thicket communities (Figure 2).

PROPOSED TERMS OF REFERENCE

We propose the following in order to complete the EIS:

- Evaluate existing vegetation communities using Ecological Land Classification for Southern Ontario (Lee *et al*. 1998. Ecological Land Classification for Southern Ontario: first approximation and its applications. SCSS Field Guide FG-02) to vegetation type;

- Conduct a single anuran amphibian call survey (April/May) to determine if potential amphibian habitat is present on site. If habitat is determined to be present, two additional surveys may be required;
- Conduct a species inventory of vascular plants during the summer season;
- Complete two avian breeding bird surveys in June;
- Undertake a Species at Risk screening and inventory under the Endangered Species Act, 2007 and assess for potential habitat which will include a search for Butternut;
- Record observations of wildlife occurrence and assess wildlife habitat function including assessing the potential for Significant Wildlife Habitat to occur;
- Map vegetation communities, environmental features and the proposed development on current high quality ortho-air photos;
- Provide an assessment of the potential impacts of the proposed works on identified environmental features;
- Provide recommendations for the mitigation of impacts of the development on identified natural features, including but not limited to the implementation of sediment fencing and tree protection measures;
- Provide recommendations for the restoration and/or enhancement, if required;
- Demonstrate conformity with the applicable policies of the Town of Grand River, GRCA, 2014 PPS and the Endangered Species Act; and
- Provide a Scoped EIS report for agency review.

At this time, we request that the GRCA review the proposed TOR and provide comment on its suitability.

If you have any questions or require further information, please do not hesitate to call.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

L. Moran

Lisa Moran, B.Sc. Env.
Terrestrial Ecologist

Melissa Fuller

From: Andrew Herreman [aherreman@grandriver.ca]
Sent: February-26-15 3:50 PM
To: Melissa Fuller
Cc: Luka Kot; Darren Vella; Tracey Atkinson (tatkinson@townofgrandvalley.ca); laura.daly@ontario.ca; andrew.doersam@ontario.ca
Subject: RE: Information for EIS completion

Good afternoon Melissa,

In response to your first email, I'm going to separate comments between the Moco and Coreseed properties. Our intent is to allow the application process to proceed where the risk of negative impact is not significant but require the appropriate studies to assess potential impacts where such impacts could likely be expected.

Coreseed Property

Due to the proximity of the development to the wetlands and floodplain on this property, Grand River Conservation Authority (GRCA) staff do not support the proposal to submit an incomplete EIS and an then submit an EIS addendum when additional surveys have been completed. As per the September 12, 2014 Terms of Reference, it is our understanding that an amphibian call survey is to be completed and if habitat is present, two additional surveys may be required. GRCA staff do not support only one amphibian call survey and recommend that the complete Marsh Monitoring Protocol be followed. We would also like to note that GRCA staff have not verified the flagged wetland boundary. GRCA staff would be available to verify the wetland boundaries this spring.

It is our opinion that if the EIS for this property is submitted as proposed in your February 11, 2015 email, the application should not be considered complete.

Moco Property

As the proposed development on this property is setback from the natural hazard/heritage features, GRCA staff have no objection to the submission of a partial EIS with an addendum EIS to follow. If the proposed development changes, the surveys noted above may be required before we assess the proposal.

I trust this information is of assistance.

Sincerely,

Andrew Herreman
Resource Planner
Grand River Conservation Authority
400 Clyde Road
PO Box 729
Cambridge ON N1R 5W6
(519) 621-2763 x 2236

From: Melissa Fuller [mailto:MFuller@Azimuthenvironmental.Com]
Sent: February-20-15 8:53 AM
To: Andrew Herreman
Cc: Luka Kot; Darren Vella
Subject: RE: Information for EIS completion

Andrew,

I received your voicemail this morning regarding the Grand Valley Project. In answer your question, we have not completed any surveys on the property at this time except one vegetation survey in August 25, 2014. We noted habitat characteristics at this time, and documented all incidental fauna occurrences as well.

We were not retained at a time that would have been appropriate to complete amphibian and bird surveys, so they were not completed.

Melissa Fuller H. B.Sc.

Terrestrial Ecologist

Azimuth Environmental Consulting, Inc
85 Bayfield Street, Suite 400
Barrie, ON L4M 3A7
office: (705) 721-8451
fax: (705) 721-8926
cell: 705-795-8451
mfuller@azimuthenvironmental.com

Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering

---

From: Andrew Herreman [mailto:aherreman@grandriver.ca]
Sent: February-17-15 11:37 AM
To: Melissa Fuller
Cc: Darren Vella; Luka Kot
Subject: RE: Information for EIS completion

Good morning Melissa, I apologize for the delay. Regarding your question about regionally rare flora and fauna, you can contact the Ministry of Natural Resources and Forestry. I will consult with our technical staff on your second question and get back to you shortly.

Sincerely,

Andrew Herreman
Resource Planner
Grand River Conservation Authority
400 Clyde Road
PO Box 729
Cambridge ON N1R 5W6
(519) 621-2763 x 2236

From: Melissa Fuller [mailto:MFuller@Azimuthenvironmental.Com]
Sent: February-11-15 9:05 AM
To: Andrew Herreman
Cc: Darren Vella; Luka Kot
Subject: Information for EIS completion

Andrew,

Does the GRCA have a available a list of regionally rare flora and fauna species for the watershed? This information would be useful for the completion of our EIS for the Grand Valley proposal.

At this time, we are aiming for a later winter completion of our EIS, utilizing the data acquired from the 2014 field studies. In the spring, we will be completing one evening anuran survey (in late April) and two dawn avian breeding bird surveys (in June) and will be issuing an addendum to the EIS once these studies are completed.

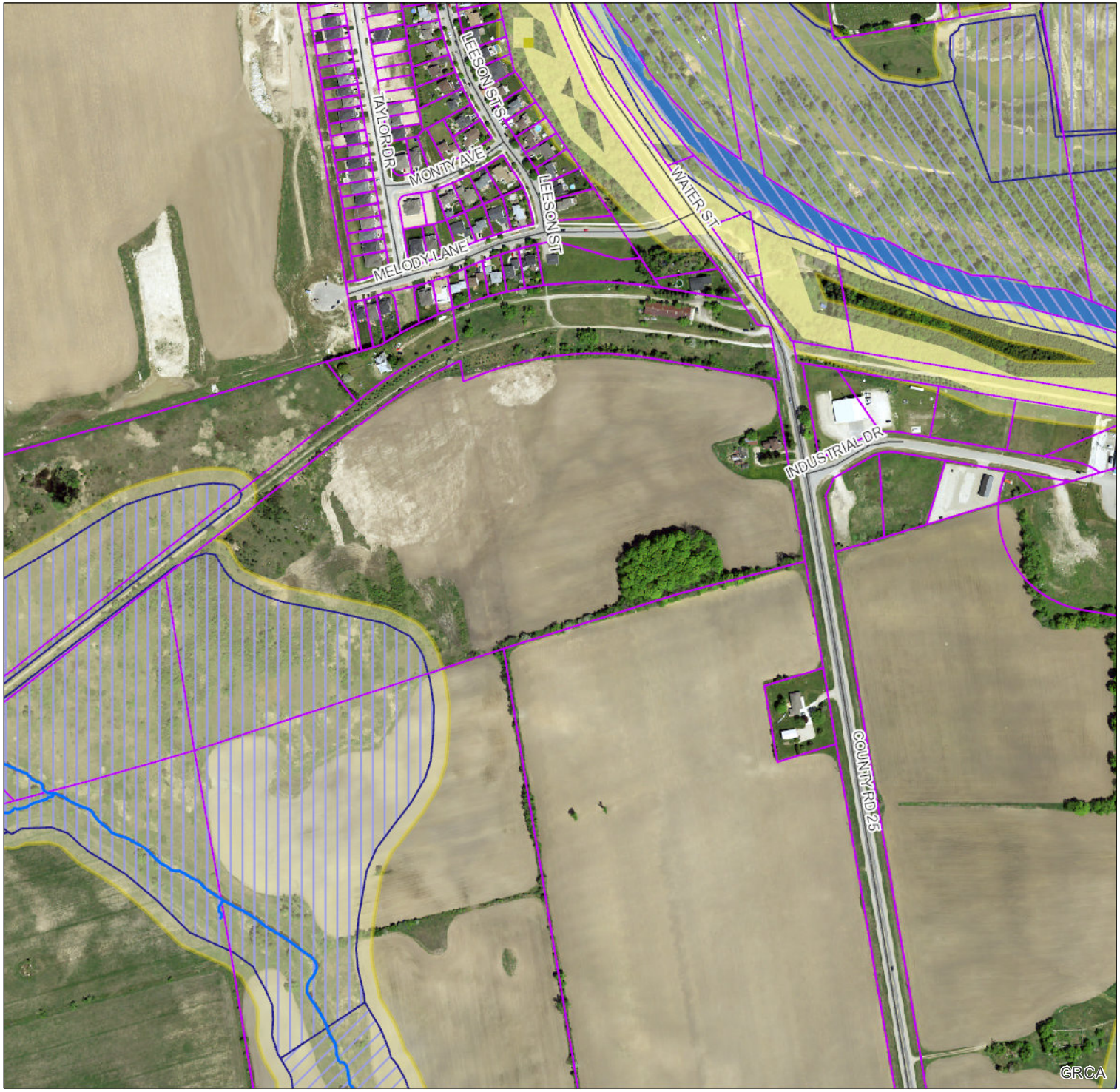
Will the GRCA require an update to the EIS scoping document in light of this?

Melissa Fuller H. B.Sc.

Terrestrial Ecologist

Azimuth Environmental Consulting, Inc
85 Bayfield Street, Suite 400
Barrie, ON L4M 3A7
office: (705) 721-8451
fax: (705) 721-8926
cell: 705-795-8451
mfuller@azimuthenvironmental.com

Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering



Grand River Conservation Authority

Date: Apr 16, 2019

Legend

- Regulation Limit (GRCA)
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Floodplain (GRCA)
  - Engineered
  - Estimated
  - Approximate
  - Special Policy Area
- Slope Valley (GRCA)
  - Steep
  - Oversteep
  - Steep
- Slope Erosion (GRCA)
  - Oversteep
  - Toe
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Parcel - Assessment (MPAC/MNRF)

This legend is static and may not fully reflect the layers shown on the map. The text of Ontario Regulation 150/06 supercedes the mapping as represented by these layers.

0 30 60 120 180 Metres

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Map Centre (UTM NAD83 z17): 554,964.89 4,859,544.83

This map is not to be used for navigation | 2015 Ortho (ON)

NAD 1983 UTM Zone 17N

Scale: 5,538

Information obtained from GRCA website (accessed April 16, 2019).

APPENDIX B

Provincial Background Information

Ministry of Natural Resources and Forestry

Ministère des Richesses naturelles et des Forêts

Guelph District
1 Stone Road West
Guelph, Ontario
N1G 4Y2

Telephone: (519) 826-4955
Facsimile: (519) 826-4929

July 28, 2016

Attention: Tracey Atkinson, MCIP RPP
Planner
Town of Grand Valley
5 Main St. N.
Grand Valley, Ontario
L9W 5S6

Re: Coreseed Development – Environmental Impact Study – Part of Lot 30, Concession 2, Town of Grand Valley, County of Dufferin – Ministry of Natural Resources and Forestry Comments

Ms. Atkinson,

The Ministry of Natural Resources and Forestry (MNRF) Guelph District Office can confirm receipt of the Coreseed Development Environmental Impact Study (EIS) dated March 2016. It is understood that the EIS was required for the proposed development as a portion of the subject property has been identified as Environmental Conservation. The MNRF has reviewed the EIS, and can offer the Town of Grand Valley (the 'Town') the following comments.

It is understood that the EIS has been requested by the Town in order for the development to move forward with draft plan approval for a proposed subdivision located on lands known as Part of Lot 30, Concession 2, Town of Grand Valley, in the County of Dufferin. More specifically, the EIS notes that a portion of the property and adjacent lands are designated Environmental Conservation, which has triggered the requirement of an EIS. MNRF's previous involvement includes two screenings of the subject lands (March, 2015 and April, 2016) to provide known Species at Risk (SAR) and natural heritage information to the project team undertaking the EIS.

MNRF Comments

Species at Risk Bats

- MNRF staff note that SAR bat species were considered by the project team as part of the EIS. SAR bats, including Little Brown Myotis and Northern Myotis, are listed as Endangered under the *Endangered Species Act* (ESA). Both species receive individual and general habitat protection under the Act.

  As noted in MNRF Guelph District's *Bat and Bat Habitat Surveys of Treed Habitats* (updated May 2016), mapping of Ecological Land Classification (ELC) communities is the first step to determine the presence/absence of candidate maternity roost habitat for SAR bats. If a suitable ELC community is identified, it is recommended that the ecosite is treated as confirmed SAR bat habitat and to move

forward to the next step if impacts to the community cannot be avoided. The following step is to map snags and conduct acoustic surveys. The purpose of mapping snags is to determine the number and location of monitoring stations appropriate for the size and quality of the habitat.

The EIS identified a deciduous forest on site (shown as FOD5-1 in Figure 2 of the EIS), which is a suitable ELC community for candidate maternity roost habitat for SAR bats. However, the EIS reported that no snag surveys or acoustic monitoring were undertaken to confirm presence/absence of SAR bats. The EIS concludes in Section 8.3 that "Based on our initial assessment, we do not believe that the FOD community contains the required concentration of cavity trees of sufficient size (i.e. >25cm) to be considered habitat for the species." It is unclear to MNRF staff how this approach demonstrates the presence/absence of SAR bats on site, given that the FOD community is considered candidate maternity roost habitat in southern Ontario.

MNRF staff recommend that the project team follow the steps outlined in the MNRF Guelph District's *Bat and Bat Habitat Surveys of Treed Habitats* (updated May 2016), which includes acoustic monitoring in the FOD community to confirm presence/absence of SAR bats. This will be important to understand the potential implications of the ESA (e.g. Overall Benefit Permit). The MNRF can provide the recommended survey protocol for endangered bats to the project team upon request.

- MNRF staff also recommend undertaking appropriate bat surveys in the structures to be demolished to confirm presence/absence of SAR bats. MNRF Guelph District's *Use of Buildings and Isolated Trees by Species at Risk Bats Survey Methodology* (October 2014) can be provided to the project team upon request.

- MNRF staff note that Tri-colored Bat has been uplisted to Endangered under the ESA as of June 15, 2016. MNRF staff recommend that the project team update their species lists to ensure any modifications made to species protected under the ESA are reflected in the reporting.

Bobolink and Eastern Meadowlark

- The EIS notes that Bobolink was observed in the wetland area in the western portion of the subject property. Bobolink is listed as Threatened under the ESA, and receives individual and general habitat protection under the Act.

- The EIS notes that Eastern Meadowlark was observed off-site at the western limits of the property, as well as in a hedgerow along the northern property limit. In addition, Eastern Meadowlark was observed within the wetland community SWT2-2 (as shown in Figure 2 of the EIS). Eastern Meadowlark is listed as Threatened under the ESA, and receives individual and general habitat protection under the Act.

- It is unclear to MNRF staff if the Bobolink or Eastern Meadowlark observations on the subject property and adjacent lands may represent habitat for these species. MNRF staff recommend that the proponent submit an Information Gathering Form to MNRF in order to determine the potential

implications of the ESA (e.g. whether the proponent qualifies for registration under Section 23.6 of Regulation 242/08 for damage/destruction of Bobolink or Eastern Meadowlark habitat equal to or less than 30 hectares).

Significant Wildlife Habitat

- MNRF staff note that Eastern Wood-Pewee was observed within the deciduous forest (FOD) and wetland (SWT) communities on site. The Significant Wildlife Habitat Technical Guide (SWHTG), and the supporting SWH Criteria Schedule for Ecoregion 6E, provides technical recommendations to help planning approval authorities evaluate and identify SWH. This includes the habitat of species of conservation concern. Eastern Wood-Pewee is listed as Special Concern under the ESA. The provincial guidance recommends that the breeding habitat for this species be considered SWH.

  Planning authorities are responsible for identifying SWH, or approving the work of others using municipal criteria or provincial guidance, to ensure consistency with the 2014 Provincial Policy Statement (PPS). The EIS identifies the FOD community as 'candidate' SWH for Eastern Wood-Pewee. Policies 2.1.5.d and 2.1.8 of the PPS states that development and site alteration shall not be permitted within or adjacent to SWH, unless it has been demonstrated that there will be no negative impacts on the natural feature or its ecological functions.

  If the Town is of the opinion that the FOD community identified in the EIS represents SWH for Eastern Wood-Pewee, it is recommended that the discussion supporting the feature's removal in the report, including Section 8.2, be reviewed to ensure the proposed approach is consistent with the PPS.

Closing

The MNRF appreciates the opportunity to review and provide comment on the Coreseed Development EIS. If further comment or clarification is required please contact the undersigned.

Regards,

TMcKenna

Tara McKenna, District Planner
Ministry of Natural Resources and Forestry, Guelph District
1 Stone Road West
Guelph, ON, N1G 4Y2
Phone: (519) 826-4912
Email: tara.mckenna@ontario.ca

cc: Ian Thornton, MNRF
Melinda Thompson, MNRF

Erika Ivanic, Ministry of Municipal Affairs, Ministry of Housing
Laura Daly, Ministry of Municipal Affairs, Ministry of Housing
Randall Roth, MMM Group

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

February 17th, 2015 AEC 14-146

Ministry of Natural Resources
Guelph District
Ontario Government Bldg
1 Stone Rd W
Guelph ON
N1G4Y2

Attention: Graham Buck, Management Biologist

RE: **Preliminary Species at Risk Information Request for a Proposed Residential Development, Part of Lot 30, Concession 2 Township of East Luther – Grand Valley, County of Dufferin**

Dear Mr. Buck:

Azimuth Environmental Consulting (Azimuth) has been retained to prepare a Species at Risk Assessment for the property identified above (mapping attached), which is currently being proposed to be developed for a residential subdivision. The purpose of this letter is to request additional species information regarding Species at Risk that should be considered during the completion of the property assessment. We would also like to request a list of regionally rare species to compare with our field data.

To date, a search of the Ontario Breeding Bird Atlas has been completed. Square 17NJ56 was queried and it was determined that numerous bird species have been observed within the 100km^2 data square, including Northern Bobwhite, Loggerhead Shrike, and Henslow's Sparrow. The OBBA data is provided as attached.

The purpose of this letter is to request additional information regarding Species at Risk and sensitive areas associated with the Study Area, along with a list of regionally rare plant and wildlife species to compare with our field data. Site surveys will include a search for Butternut, and potential turtle habitat.

Thank you very much for your assistance in this matter. If you have any questions regarding this project please do not hesitate to contact us.
Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Roger Holmes, MSc.
Aquatic Ecologist

MMF

Attach: Ontario Breeding Bird Atlas Data Summary (17NJ56)
Figure 1- Study Area Location

Lisa Moran

From: Roger Holmes
Sent: March-02-16 10:45 AM
To: Lisa Moran
Subject: FW: Species at Risk Screening Request and Rare Species List
Attachments: SARO_Species_East-Luther.xls

MNRF's response below.

Roger Holmes, M.Sc.,
Aquatic Ecologist

Please note, our office has moved:
Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, ON, L4N 9A1
office: (705) 721-8451
fax: (705) 721-8926
cell: 705-795-7101
rholmes@azimuthenvironmental.com

www.azimuthenvironmental.com

Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering
Please consider the environment before printing this correspondence

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From: Buck, Graham (MNRF) [mailto:Graham.Buck@ontario.ca]
Sent: Friday, March 06, 2015 2:42 PM
To: Roger Holmes
Subject: RE: Species at Risk Screening Request and Rare Species List

Hello Roger,

Regarding project 14-146 the Ministry of Natural Resources and Forestry (MNRF) Guelph District Office has had an opportunity to review the natural heritage information and records the study area. Based on the study area map provided, MNR staff can offer the following information and comments for your consideration.

- The Ministry notes that there are no known records of species at risk (SAR) for the study area or the areas adjacent to the study area.

Regarding project 14-147 the MNRF Guelph District Office has had an opportunity to review the natural heritage information and records the study area. Based on the study area map provided, MNR staff can offer the following information and comments for your consideration.

- The Ministry notes that there are no known records of species at risk (SAR) for the study area or the areas adjacent to the study area.

Please be advised however, that because the province has not been surveyed comprehensively for the presence of listed species (endangered or threatened), the absence of a record is not an appropriate indicator for the absence of SAR from an area. To determine the presence of SAR for a given study area, the District's recommended approach includes the following:

I. Habitat Inventory

MNR staff recommends undertaking a comprehensive botanical inventory of the entire area that may be subject to direct and indirect impacts from the proposed activity. The vegetation communities should be classified as per the "Ecological Land Classification (ELC) for Southern Ontario" system, to either the "Ecosite" or "Vegetation Type" level. With respect to aquatic habitats in the study area, we recommend you collect data on the physical characteristics of the waterbodies and inventory the riparian zone vegetation, so that these habitats can be classified as per the Aquatic Ecosites described in the ELC manual.

II. Potential Species at Risk within the Study Area

A list of SAR that have the potential to occur in the area can be produced by cross-referencing the ecosites described during the habitat inventory with the habitat descriptions of SAR known to occur within the planning area. The list of SAR known or suspected to occur in East Luther Township is attached for your reference. The species-specific COSEWIC status reports (www.cosewic.gc.ca) are a good source of information on habitat needs and will be helpful in determining the suitability of the study areas ecosites for a given species.

Please note that the Species at Risk in Ontario list (SARO) is a living document and is amended periodically as a result of species assessment and re-assessments conducted by the Committee on the Status of Species at Risk in Ontario (COSSARO). The SARO list can be accessed on the webpage http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_CSSR_SARO_LST_EN.html.

COSSARO also maintains a list of species to be assessed in the future. It is recommended to take COSSARO's list of anticipated assessments into consideration, especially when the proposed start date of the activity is more than 6 months away, or the project will be undertaken over a period greater than 6 months. The list can be viewed at http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_ENDNGR_SPC_TBSCS_EN.html and clicking on the link 'meeting dates and species to be considered'.

SAR habitat prescribed under regulation can be accessed on the Environmental Registry and searching for postings related to Ontario Regulation 242/08 under the *Endangered Species Act*.

III. Species at Risk Surveys

Ministry staff are of the opinion that each SAR identified under Step II should be surveyed for, regardless of whether or not the species has been previously recorded in the area. The survey report should describe how each SAR was surveyed for, and provide a rationale for why certain species were not afforded a survey (e.g. habitat within the study area is not suitable for a specific SAR).

Graham Buck
Management Biologist
Ministry of Natural Resources and Forestry

1 Stone Road West
Guelph ON
N1G 4Y2
519 826 4505
graham.buck@ontario.ca

From: Roger Holmes [mailto:rholmes@azimuthenvironmental.com]
Sent: February-17-15 3:59 PM
To: Buck, Graham (MNRF)
Subject: FW: Species at Risk Screening Request and Rare Species List

My apologies Graham, I forgot to include the OBBA data in the previous email.

Roger Holmes, M.Sc.,
Aquatic Ecologist

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From: Roger Holmes
Sent: Tuesday, February 17, 2015 3:32 PM
To: 'graham.buck@ontario.ca'
Subject: Species at Risk Screening Request and Rare Species List

Hello Mr. Buck,
I am currently working on two projects near Grand Valley, which require a Species at Risk screening and list of regionally rare species.
The two properties are across the road from each other, so the attached letters are very similar.
If you have any questions please feel free to call me.
Thanks,

Roger Holmes, M.Sc.,
Aquatic Ecologist

Azimuth Environmental Consulting, Inc.
85 Bayfield Street, Suite 400
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Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering

East Luther Grand Valley

Species At Risk Designations	
ENDANGERED	
THREATENED	
SPECIAL CONCERN	

BIRDS		ESA Protection	Key Habitats Used By Species	Timing Of Life History Events	How to Conduct a Proper Survey
Bald Eagle (*Haliaeetus leucocephalus*)	**Known to Occur**	*N/A*	prefers deciduous and mixed-deciduous forest; and habitat close to water bodies such as lakes and rivers; They roost in super canopy trees such as Pine	Breed and Nest - April or May Some Migrate South when water bodies freeze over	Follow Breeding Bird Survey Protocol
Bank Swallow (Riparia riparia)	**Known to Occur**	*Species and General Habitat Protection*	prefer low areas along rivers, streams or reservoirs, including vertical cliffs or banks where they nest in colonies. commonly found around natural bluffs or eroding streamside banks, and human-made sites, such as sand and gravel quarries or road cuts.	Migrate South before Winter	Follow Breeding Bird Survey Protocol
Barn Swallow (Hirundo rustica)	**Known to Occur**	*Species and General Habitat Protection*	prefers farmland; lake/river shorelines; wooded clearings; urban populated areas; rocky cliffs; and wetlands. They nest inside or outside buildings; under bridges and in road culverts; on rock faces and in caves etc.	Migrate South before Winter	Follow Breeding Bird Survey Protocol
Black Tern (*Childonias niger*)	**Known to Occur**	*N/A*	generally prefer freshwater marshes and wetlands; nest either on floating material in a marsh or on the ground very close to water	Migrate South for the Winter	Follow Breeding Bird Survey Protocol
Bobolink (*Dolichonyx oryzivorus*)	**Known to Occur**	*Species and General Habitat Protection*	generally prefers open grasslands and hay fields. In migration and in winter uses freshwater marshes and grasslands	Migrate South for the Winter	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Canada Warbler (*Cardellina canadensis*; formerly *Wilsonia canadensis*)	**Known to Occur**	*N/A*	Generally prefers wet coniferous, decediuous and mixed forest types, with a dense shrub layer. Nests on the ground, on logs or hummocks, and uses dense shrub layer to conceal the nest.	Migrate South for the Winter Arrive in Ontario Early May	Follow Breeding Bird Survey Protocol
Cerulean Warbler (*Setophaga cerulea;* formerly *Dendoica cerulea*)	**Known to Occur**	*Species and General Habitat Protection*	generally found in mature deciduous forests with an open understorey; also nests in older, second-growth deciduous forests.	Migrate South for the Winter	Follow Breeding Bird Survey Protocol
Chimney Swift (*Chaetura pelagica*)	**Known to Occur**	*Species and General Habitat Protection*	historically found in deciduous and coniferous, usually wet forest types, all with a welldeveloped, dense shrub layer; now most are found in urban areas in large uncapped chimneys	Nesting - Late April to Mid- May Migrate South in September or Early October	Consult: Chimney Swift Monitoring Protocol. Bird Studies Canada, March 2009
Common Nighthawk (*Chordeiles minor*)	**Known to Occur**	*N/A*	generally prefer open, vegetation-free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and river banks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nest on flat roof-tops)	Migrate South for the Winter	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Eastern Meadowlark (*Sturnella Magna*)	**Known to Occur**	*Species and General Habitat Protection*	generally prefers grassy pastures, meadows and hay fields. Nests are always on the ground and usually hidden in or under grass clumps.	Migrate South for the Winter	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Eastern Whip-poor-will *(Caprimlugus vociferus)*	**Historically Known to Occur; May Still Occur**	*Species and General Habitat Protection*	generally prefer semi-open deciduous forests or patchy forests with clearings; areas with little ground cover are also preferred; In winter they occupy primarily mixed woods near open areas.	Nesting: May - July	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Eastern Wood-Pewee (*Contopus virens*)	**Known to Occur**	*N/A*	asscoiated with deciduous and mixed forests. Witin mature and intermediate age stands it prefers areas with little understory vegetation as well as forest clearings and edges.	Migrate South for the Winter	Follow Breeding Bird Survey Protocol

Henslow's Sparrow *(Ammodramus henslowii)*	**Known to Occur**	*Species and General Habitat Protection*	generally found in old fields, pastures and wet meadows. They prefer areas with dense, tall grasses, and thatch, or decaying plant material	Migrate South for the Winter	Follow Breeding Bird Survey Protocol
Least Bittern *(Ixobrychus exilis)*	**Known to Occur**	*Species and General Habitat Protection*	generally located near pools of open water in relatively large marshes and swamps that are dominated by cattail and other robust emergent plants	Migrate South for the Winter	Follow Marsh Monitoring Protocol; 10 day window of male calling (variable timing). Does not respond well to playback. Very difficult to detect.
Loggerhead Shrike (Lanius ludovicianus)	**Historically Known to Occur**	*Species and General Habitat Protection*	generally prefer a combination of pasture or other grassland with scattered low trees and shrubs. They build their nests in small trees or shrubs.	Migrate South for the Winter	Follow Breeding Bird Survey Protocol
Wood Thrush (Hylocichla mustelina)	**Known to Occur**	*N/A*	Nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers. Prefers large forest mosaics, but may also nest in small forest fragments.	Migrate South for the Winter Arrive in Ontario in mid to late spring	Follow Breeding Bird Survey Protocol
Yellow-breasted Chat *(Icteria virens)*	**Known to Occur**	*Species and General Habitat Protection*	generally prefer dense thickets around wood edges, riparian areas, and in overgrown clearings	Migrate South for the Winter Arrive in Ontario Early May	Follow Breeding Bird Survey Protocol

INSECTS		ESA Protection	**Key Habitats Used By Species**	**Timing Of Life History Events**	**How to Conduct a Proper Survey**
Monarch Butterfly *(Danaus plexippus)*	**Known to Occur**	*N/A*	exist primarily wherever milkweed and wildflowers exist; abandoned farmland, along roadsides, and other open spaces	Migrate South for the Winter Usually in Late September and October	• Watch for adults along roadsides and in open fields • Caterpillars feed on milkweeds: Common milkweed grows in open disturbed habitats (fields, roadsides, etc) and swamp milkweed grows in wet habitats (along streams, lakes, marshes) • Adults can be spotted from a distance; caterpillars must be looked for carefully on the host plant.
Rusty-patched Bumble Bee (Bombus affinis)	**Formerly Occurred and May Still Occur**	*Species and General Habitat Protection*	generally inhabits a range of diverse habitats including mixed farmland, sand dunes, marshes, urban and wooded areas. It usually nests underground in abandoned rodent burrows	Active from early Spring to late Fall	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol

MAMMALS		ESA Protection	**Key Habitats Used By Species**	**Timing Of Life History Events**	**How to Conduct a Proper Survey**
Grey Fox *(Urocyon cineroargenteus)*	**Suspected to Occur**	*Species and General Habitat Protection*	generally prefers deciduous forests, marshes, swampy areas, and urban areas	Active Year Round	• Opportunistically or by examining tracks in winter and in mud in summer
Eastern Small-footed Myotis (Myotis leibii)	**Suspected to Occur**	*Species and General Habitat Protection*	Overwintering habitat: Caves and mines that remain above 0 Maternal Roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses and under tree bark.	Hibernates in caves and mines during winter	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Little Brown Myotis (Myotis lucifugus)	**Suspected to Occur**	*Species and General Habitat Protection*	Overwintering habitat: Caves and mines that remain above 0 Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in trees (25-44 cm dbh).	Hibernates in caves and mines during winter	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Northern Myotis (Myotis septentrionalis)	**Suspected to Occur**	*Species and General Habitat Protection*	Overwintering habitat: Caves and mines that remain above 0 Maternal Roosts: Often asssociated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns etc.)	Hibernates in caves and mines during winter	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol

MOLLUSCS		ESA Protection	**Key Habitats Used By Species**	**Timing Of Life History Events**	**How to Conduct a Proper Survey**
Rainbow Mussel *(Villosa iris)*	**Known to Occur**	*Species and General Habitat Protection*	most abundant in shallow, well- oxygenated reaches of small- to medium-sized rivers and sometimes lakes, on substrates of cobble, gravel, sand and occasionally mud	Active Year Round	Please reference: Mackie, G, T.J Morris, and D Ming. **"Protocol for the Detection and Relocation of Freshwater Mussel Species at Risk in Ontario Great Lakes Area (OGLA)."** Fisheries and Oceans Canada. (2008): Print.

PLANTS	ESA Protection	**Key Habitats Used By Species**	**Timing Of Life History Events**	**How to Conduct a Proper Survey**

American Ginseng *(Panax quinquefolius)*	**Suspected to Occur**	*Species and General Habitat Protection*	grows in rich, moist, undisturbed and relatively mature deciduous woods in areas of neutral soil (such as over limestone or marble bedrock).	Flowering begins in June and continues until August; The fruit develop from July to August and ripen in August and September	• Walk slowly and systematically in grid fashion, pausing to scan for plants every 5 meters • Use a plant field guide to distinguish from similar species
Butternut *(Juglans cinerea)*	**Known to Occur**	*Species and General Habitat Protection*	generally grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows	Flowers from April to June. Fruits reach maturity during the month of September or October	Walk slowly and systematically in grid fashion through suitable habitat pausing every 30 meters for a detailed scan of trees within sight. Areas with dense foliage or many saplings will require a more intensive survey to detect sapling butternut and yearlings Look for distinctive fruit on the ground

REPTILES		ESA Protection	**Key Habitats Used By Species**	**Timing Of Life History Events**	**How to Conduct a Proper Survey**
Blanding's Turtle *(Emydonidea blandingii)*	**May Occur - known from area**	*Species and General Habitat Protection*	generally occur in freshwater lakes, permanent or temporary pools, slow-flowing streams, marshes and swamps. They prefer shallow water that is rich in nutrients, organic soil and dense vegetation. Adults are generally found in open or partially vegetated sites, and juveniles prefer areas that contain thick aquatic vegetation including sphagnum, water lilies and algae. They dig their nest in a variety of loose substrates, including sand, organic soil, gravel and cobblestone. Overwintering occurs in permanent pools that average about one metre in depth, or in slow-flowing streams.	Eggs are laid in June, with hatchlings emerging in late September and early October.	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Butler's Gartersnake *(Thamnophis butleri)*	**Known to Occur**	*Species and General Habitat Protection*	generally prefers open habitats, such as dense grasslands and old fields, where there are small marshes and seasonal wet areas	Active: early April - mid-September Mating: early spring (April) Hatching: June and July	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Eastern Ribbonsnake *(Thamnophis sauritus)*	**Known to Occur**	*N/A*	generally occur along the edges of shallow ponds, streams, marshes, swamps, or bogs bordered by dense vegetation that provides cover. Abundant exposure to sunlight is also required, and adjacent upland areas may be used for nesting.	Hibernate: October - April Mating: Early Spring Hatching: Early Fall (September)	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Milksnake *(Lampropeltis triangulum)*	**Suspected to Occur**	*N/A*	generally occur in rural areas, where it is most frequently reported in and around buildings, especially old structures. It is also found in a wide variety of habitats, from prairies, pastures, and hayfields, to rocky hillsides and a wide variety of forest types. They must also be in proximity of water, and suitable locations for basking and egg-laying.	Active at dawn and dusk in the spring and fall, and at night in the summer. Hibernate: Late October to Early May	Contact MNR Guelph District SAR Bio to obtain a copy of the protocol
Snapping Turtle *(Chelydra serpentina)*	**Known to Occur**	*N/A*	generally inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.	Nesting: Late May and June Hibernate: October - April	• Scan offshore rocks and logs for basking turtles (10am-2pm) • Snorkel in desired aquatic habitat! • Nesting Season: Search known or preferred nesting habitat areas for females
Spotted Turtle *(Clemmys guttata)*	**Suspected to Occur**	*Species and General Habitat Protection*	generally prefers the shallow, slow-moving and unpolluted water of ponds, bogs, marshes, ditches, vernal pools and sedge meadows. It can also be found in woodland streams and near the sheltered shores of shallow bays	Hibernate: September - April Breed: May - Early June Nesting: Mid - Late June	• Stalk silently along shorelines and from vantage points scan emergent clumps of vegetation, logs, rocks and shorelines for basking turtles and watch for turtles in shallow ponds/pools • Wade very slowly through wetland edges being extremely quiet and careful to ensure you see the turtle before it sees you • Nesting season: search nesting habitat areas for females • Wetlands can be scanned from a greater distance using a spotting scope • High quality 10 power binoculars are essential • Surveys should be done by looking for basking turtles in early Spring as they come out of hibernation • Minimum of 2 days of surveys in appropriate weather (warm sunny spring days) at suitable sites

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Enter map title

Notes:
Enter map notes

Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland
- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)
- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan
- Boundary
- River Valley Connections

Land Use Designations
- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)
- Boundary
- Parks and Open Space System

Land Use Designations
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)
- Boundary

Land Use Designations
- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.3 km

Projection: Web Mercator

Square Summary (17NJ56)

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
7	47	44	98	17	41	40	98	62	61	24	3

Region summary (#47: Wellington)

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
31	31	31	165	167	987	775

Target number of point counts in this square: 22 road side, 3 off road (1 in treed wetlands, 1 in deciduous forest, 1 in pasture/grassland). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Goose	FY	FY	87	100
Mute Swan ‡			0	3
Trumpeter Swan †			0	9
Wood Duck	V	H	80	96
Gadwall			9	3
American Wigeon	P		12	3
American Black Duck			25	19
Mallard	NE	FY	100	100
Blue-winged Teal	P	P	77	48
Northern Shoveler ‡			3	3
Northern Pintail ‡			6	0
Green-winged Teal			0	19
Canvasback †			3	0
Redhead †			3	3
Ring-necked Duck ‡			3	3
Lesser Scaup ‡			3	0
Hooded Merganser			32	29
Common Merganser ‡			16	6
Red-breast Merganser ‡			3	0
Ruddy Duck †			3	12
Ring-necked Pheasant			35	19
Ruffed Grouse	FY	FY	96	93
Wild Turkey		T	0	87

SPECIES	Code		%	
	1st	2nd	1st	2nd
Least Bittern †			9	19
Great Blue Heron §	H		93	87
Great Egret †			3	3
Green Heron §	V	H	93	93
Black-crown N.-Heron † §			3	3
Turkey Vulture	H	H	64	93
Osprey			16	29
Northern Harrier	CF	CF	100	93
Sharp-shinned Hawk	AE	H	58	74
Cooper's Hawk		H	12	54
Northern Goshawk			9	29
Red-should Hawk †			22	12
Broad-winged Hawk	H		16	29
Red-tailed Hawk	AE	H	100	100
American Kestrel	CF	AE	100	93
Merlin ‡			3	3
Virginia Rail		T	67	70
Sora	S		64	64
Common Moorhen			12	12
American Coot			16	6
Coot/Moorhen			0	3
Sandhill Crane ‡			0	6
Killdeer	FY	DD	100	100

SPECIES	Code		%	
	1st	2nd	1st	2nd
Ring-billed Gull ‡§			0	3
Herring Gull ‡§			6	3
Black Tern † §			6	6
Mourning Dove	NE	AE	100	100
Yellow-billed Cuckoo			16	16
Black/Yell-billed Cuckoo			0	45
Black-billed Cuckoo	T	H	74	74
Eastern Screech-Owl		S	80	100
Great Horned Owl	AE	S	93	83
Long-eared Owl ‡			6	22
Short-eared Owl †			3	0
North Saw-whet Owl	T		16	0
Common Nighthawk			29	12
Whip-poor-will	T		9	12
Chimney Swift			58	48
Ruby-thr Hummingbird	S		80	93
Belted Kingfisher	AE	CF	100	100
Red-headed Woodpecker †	T		77	25
Red-bell Woodpecker ‡			0	19
Yellow-bellied Sapsucker	T	FY	64	58
Downy Woodpecker	CF	D	100	100
Hairy Woodpecker	T	P	90	96
Northern Flicker	AE	D	100	100

Northern Bobwhite †			9	9
Common Loon			9	9
Pied-billed Grebe			22	51
Red-necked Grebe †			3	0
Double-crest Cormorant ‡§			3	6
American Bittern	T	S	51	58

Rock Dove	AE	AE	100	100
Spotted Sandpiper	D	P	100	96
Upland Sandpiper	FY	H	51	35
Common Snipe	T	T	87	80
American Woodcock	T	S	80	96
Wilson's Phalarope †			3	6

Pileated Woodpecker	H	H	74	96
Olive-sided Flycatcher ‡			0	3
Eastern Wood-Pewee	T	T	100	100
Alder Flycatcher	T	T	74	96
Willow Flycatcher	T	T	80	87
Least Flycatcher	T	T	93	96

SPECIES	Code		%	
	1st	2nd	1st	2nd
Eastern Phoebe	AE	AE	96	100
Gr Crested Flycatcher	T	T	96	100
Eastern Kingbird	AE	T	100	100
Loggerhead Shrike †			9	0
Yellow-throated Vireo ‡			3	6
Blue-headed Vireo			0	22
Warbling Vireo	D	T	93	96
Red-eyed Vireo	D	T	90	100
Blue Jay	T	CF	100	100
American Crow	CF	AE	100	100
Common Raven ‡			0	19
Horned Lark	T	T	100	100
Purple Martin			38	35
Tree Swallow	AE	AE	100	100
North Rgh-wing Swallow	AE	AE	93	90
Bank Swallow §	AE	H	93	90
Cliff Swallow §	AE	AE	96	100
Barn Swallow	AE	AE	100	100
Black-capped Chickadee	AE	AE	100	100
Red-breast Nuthatch		T	51	83
White-breast Nuthatch	FY	T	80	93
Brown Creeper		T	45	77
Carolina Wren			0	19

SPECIES	Code		%	
	1st	2nd	1st	2nd
Blue-gr Gnatcatcher			25	12
Eastern Bluebird			16	77
Veery	T	T	96	96
Hermit Thrush		H	0	3
Wood Thrush	T	T	83	93
American Robin	AE	CF	100	100
Gray Catbird	NE	FY	96	100
Northern Mockingbird			3	16
Brown Thrasher	CF	FY	100	100
European Starling	AE	FY	100	100
Cedar Waxwing	H	D	100	100
Blue-winged Warbler			12	19
Golden-winged Warbler	T		19	9
Blue/Gold-wing Warbler			0	3
Nashville Warbler	CF	A	74	83
Yellow Warbler	CF	CF	100	100
Chestn-sided Warbler	T	CF	51	80
Magnolia Warbler		CF	12	32
Black-thr Blue Warbler			3	12
Yellow-rumped Warbler	T	CF	22	74
Black-thr Green Warbler			19	54
Blackburnian Warbler			12	9
Pine Warbler		A	19	74

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Warbler			32	32
Eastern Towhee	T	T	48	64
Chipping Sparrow	CF	CF	100	100
Clay-colored Sparrow			19	41
Field Sparrow	A	T	74	90
Vesper Sparrow	T	S	93	83
Savannah Sparrow	CF	CF	96	100
Grasshopper Sparrow			45	41
Henslow's Sparrow †	CF		16	0
Song Sparrow	CF	DD	100	100
Lincoln's Sparrow ‡	CF	T	6	12
Swamp Sparrow	NE	CF	100	96
White-throat Sparrow	A	FY	96	87
Scarlet Tanager	T		58	61
Northern Cardinal	T	T	80	96
Rose-breast Grosbeak	D	T	100	100
Indigo Bunting	T	P	100	100
Bobolink	CF	NY	100	100
Red-wing Blackbird	NY	CF	100	100
Eastern Meadowlark	CF	CF	100	100
Western Meadowlark ‡			6	0
Common Grackle	CF	AE	100	100
Brown-head Cowbird	NE	FY	96	100

House Wren	T	T	100	100
Winter Wren	T	T	90	74
Sedge Wren		H	32	22
Marsh Wren			25	45
Golden-crown Kinglet	T	T	32	35
Ruby-crown Kinglet ‡			3	0

Black-white Warbler	T	T	77	83
American Redstart	T	T	74	100
Ovenbird	T	T	100	96
North Waterthrush	T	T	77	80
Mourning Warbler	T	T	83	90
Common Yellowthroat	D	CF	100	100

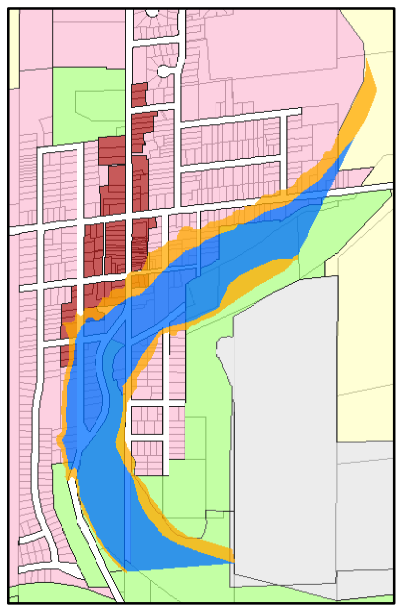
Orchard Oriole ‡			6	12
Baltimore Oriole	NU	FY	100	100
Purple Finch		T	35	70
House Finch		T	19	96
Pine Siskin			16	19
American Goldfinch	D	NB	100	100

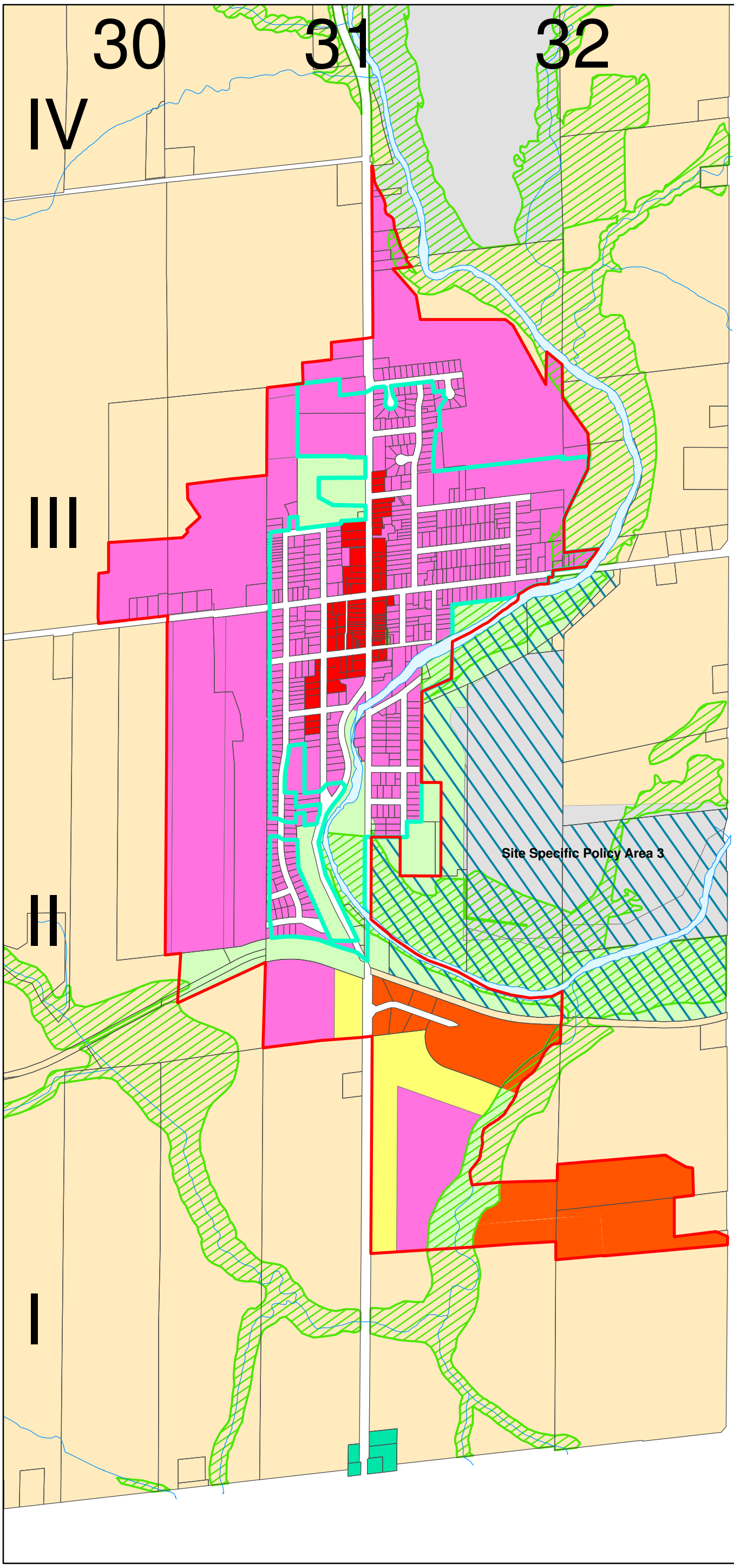
SPECIES	**Code**		**%**	
	1st	**2nd**	**1st**	**2nd**
House Sparrow	AE	FY	100	100

APPENDIX C

Municipal Background Information

Town of Grand Valley
Official Plan
Schedule A-2
Land Use (Village)





N

0 100 200 300 400 500

Metres

- Floodway (Inset)
- Flood Fringe (Inset)
- Settlement Boundary
- OHN_Waterbody_2012
- OHN_Watercourse_2012
- Delineated Built Boundary
- Site Specific Policy Areas
- Environmental Conservation
- Agriculture
- Downtown Commercial
- Employment
- Environmental Protection
- Extractive Industrial
- Gateway
- Mixed Use
- Open Space
- Rural Settlement
- Urban Residential

OFFICE CONSOLIDATION

This is Schedule A-2 to the Official Plan

Consolidated December 2016

19 20 21 22 23 24 25 26 27 28 29 30 31 32

XIV

XIII

XII

XI

X

IX

VIII

VII

VI

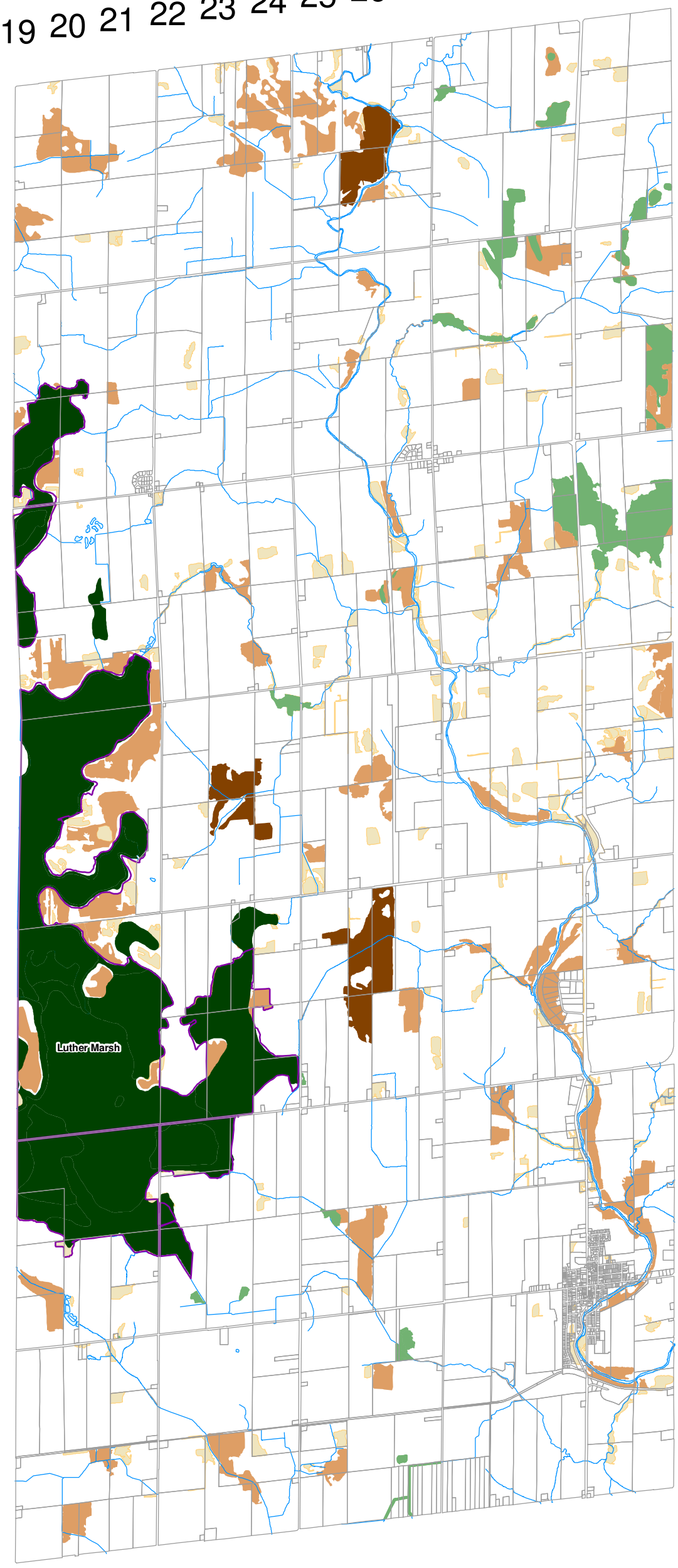
V

IV

III

II

I



Town of Grand Valley
Official Plan
Schedule B-1
Natural Heritage

N

0 0.5 1 1.5 2 2.5

Kilometres

Provincially Significant ANSI

Locally Significant and Unevaluated Wetlands

Provincially Significant Wetlands

Lakes & Rivers

Streams

Wooded Areas

<= 4 Ha

4.01 - 39.9 Ha

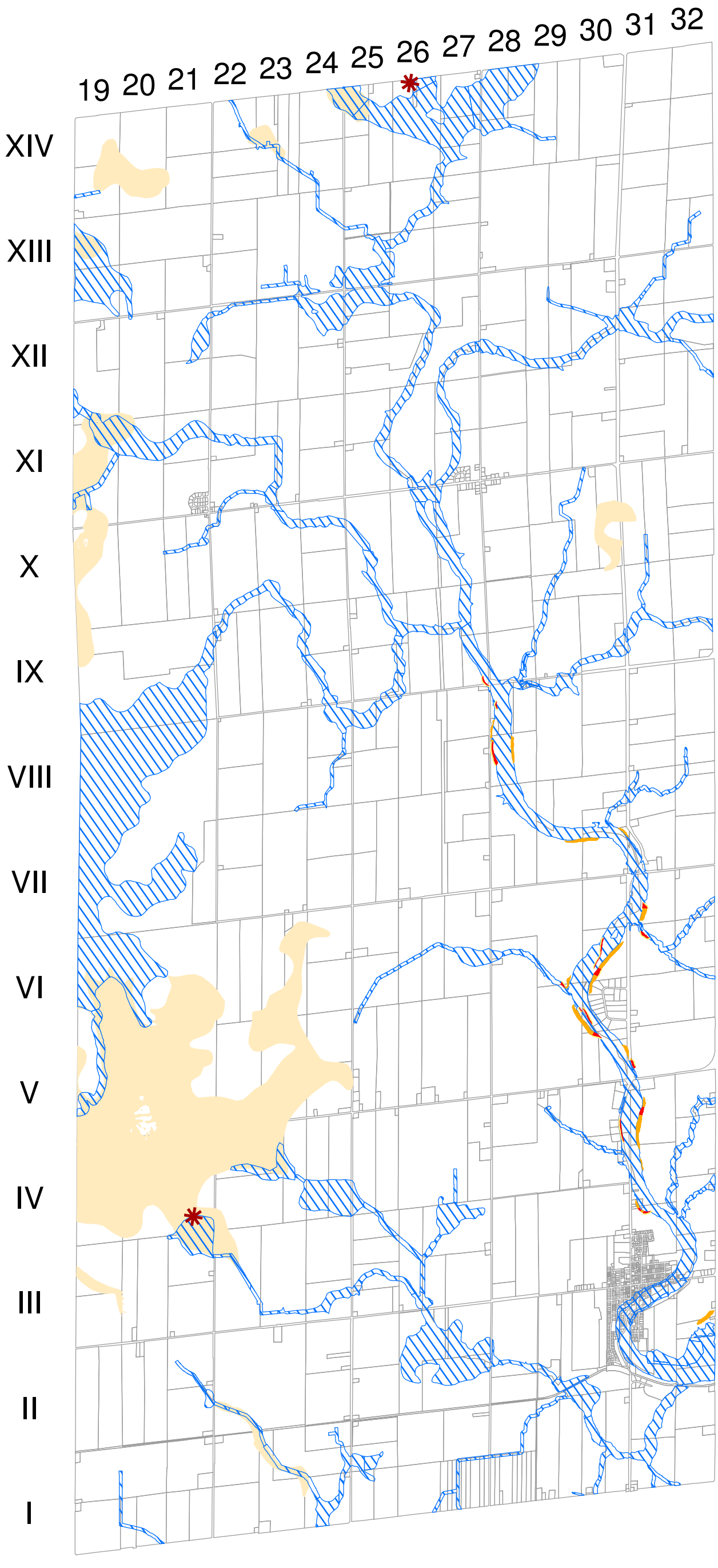
>= 40 Ha

This is Schedule B-1 to
Official Plan Amendment 4,
passed this ____ day
of November, 2012

John K. Oosterhof, Mayor

Jane M. Wilson, CAO/Clerk

Town of Grand Valley
Official Plan
Schedule B-2
Natural & Human-Made Hazards



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Kilometres

Inactive Waste Disposal Sites

Erosion Hazards

TOE

STEEP

OVERSTEEP

Floodplains

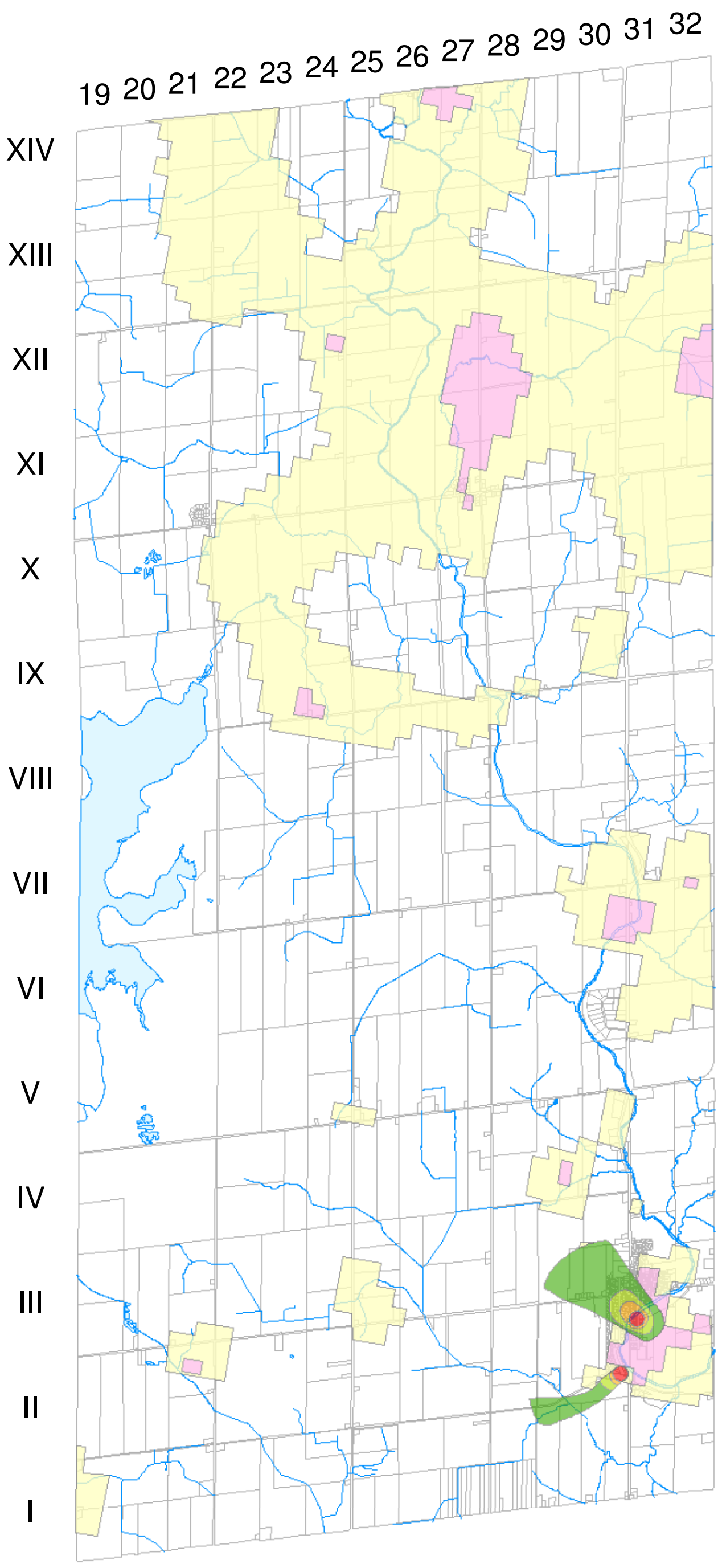
Organic Soils

This is Schedule B-2 to Official Plan Amendment 4, passed this ____ day of November, 2012

John K. Oosterhof, Mayor

Jane M. Wilson, CAO/Clerk

Town of Grand Valley
Official Plan
Schedule B-4
Water Resources



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Kilometres

Streams

Lakes & Rivers

Aquifer Vulnerability

30-80 Years to Contamination

<30 Years to Contamination

Wellhead Protection Area Zone

A

B

C

D

This is Schedule B-4 to
Official Plan Amendment 4,
passed this ____ day
of November, 2012

John K. Oosterhof, Mayor

Jane M. Wilson, CAO/Clerk