



# Planning Report

## Application for a Zoning By-Law Amendment to Permit Consent to Sever

Part Lot 21, Concession 1  
Geographic Township of Egremont  
Township of Southgate  
Grey County

**Prepared for:**  
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June 2022

File No. 221172

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## PLANNING JUSTIFICATION REPORT

Application for a Zoning By-Law Amendment to Permit Consent to Sever  
Part Lot 21, Concession 1  
Geographic Township of Egremont  
Township of Southgate  
County of Grey

### 1.0 BACKGROUND AND CONTEXT

#### 1.1 Purpose of Report

Cuesta Planning Consultants Inc. (CPC) has been retained by Ms. Barbara Crummer, the agent representing the applicants and property owners, Linda and Roger Falladown, to prepare and process the required policy amendment application to permit the severance lands legally described as Pt. Lot 21, Concession 1, geographic Township of Egremont, now part of the Township of Southgate. The owners wish to create a lot on the above noted lands in order to construct a residence. The proposed lot will be approximately 0.9 ha in area and will require a re-zoning to establish the location and size of the proposed lot as well as to identify development setbacks from the on-site wetland.

This report will examine the merits of the proposed zoning by-law amendment and subsequent consent by evaluating the proposal against the policies of the Provincial Policy Statement (PPS), the Grey County Official Plan (GCOP) and the Township of Southgate Official Plan (TSOP). The conclusions of this report support the subject policy amendment application.

This report and accompanying applications are intended to satisfy the requirements of Section 34 (10.1 & 10.2) and Section 53 (2 & 3) of the Planning Act, RSO 1990 regarding the submission of a complete application.

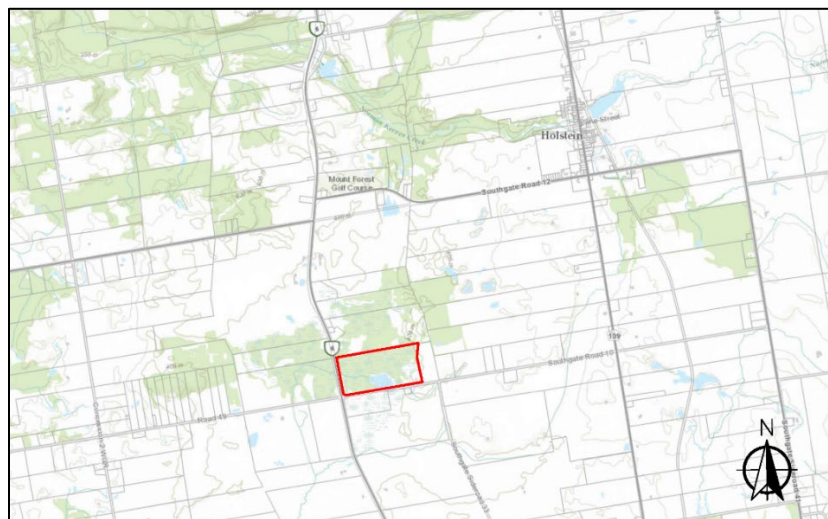


Figure 1: Location of Subject Lands

## 1.2 Location and Description of Subject Lands

The subject lands are located at the south-west corner of Lot 21, Concession 1 in the Township of Southgate and will front on Highway 6 and Southgate Road 10 and are approximately 7 kilometres north of Mount Forest and 3.5 kilometres southwest of the Holstein Settlement Area. The total holding is approximately 34.5 ha (85.3 ac) in area. The subject property contains a significant amount of wetlands which are part of the Letterbreen Bog, Provincially Significant Wetland (PSW).

## 1.3 Pre-Submission Consultation and Approvals Required

Prior to Cuesta Planning Consultants' involvement, Ms. Crummer reviewed the requirements for a consent with the Municipality. Mr. Stredwick, the municipal planner, advised that an Environmental Impact Study (EIS) was required to determine an appropriate building location on the proposed lot as well as to identify a building envelope on the retained parcel.

The EIS was intended to establish development setbacks from on-site natural heritage features for any future dwelling and associated servicing. An EIS has been completed by Natural Resources Solutions Inc. (NRSI) and will be submitted as part of the complete application requirements.

As stated previously, a zoning bylaw amendment will be required to provide relief from the provisions of the A1 zone and establish appropriate development standards for the new lot.

The Terms of Reference for the EIS were approved by the Municipality and the Saugeen Valley Conservation Authority (SVCA) and the resulting EIS was found acceptable by the SVCA in October of 2021. The 2021 EIS was an update of a 2007 EIS completed for the same property by NRSI for a previous owner.

As the property falls within a regulated area of the SVCA, any future development will require a permit from the SVCA.

Based on a review of the land use policy and the pre-submission consultation, the required approvals are reflected in Table 1.

*Table 1: Approvals Required*

<b>Application</b>	<b>Approval Authority</b>
<u>Zoning By-Law Amendment (ZBA)</u> A Zoning By-law Amendment will be required to establish the setbacks from the PSW as set out in the EIS which are beyond those set out in the Zoning By-Law for the A1 Zone.	Township of Southgate
<u>Consent to Sever</u> A Consent to Sever application will be required to create the lot and implement any development limitations.	Township of Southgate

## 2.0 LAND USE POLICY CONSIDERATIONS

The following analysis of the applicable land use policies considers how the proposal will meet the goals and intent of relevant policy for the area and remain compatible with surrounding land uses. Taking into account provincial, county and local policies it will be determined how the proposal represents appropriate land use planning.

In addition to the Provincial Policy Statement, the County of Grey Official Plan (GCOP), the Township of Southgate (TSOP) and the Township of Southgate Comprehensive Zoning By-Law 19-2002, will also be evaluated as land use policy applicable to the proposal.

### 2.1 Provincial Policy Statement (PPS)

Any land use decision must be assessed against the applicable provisions of the PPS. Although the PPS is to be read in its entirety, the following provisions are deemed to be the most applicable to the consideration of the proposal. The evaluation of the land use policy is shown in italics.

Although the PPS is to be read in its entirety, the following provisions are deemed to be the most applicable to the consideration of the proposed severance.

#### **Section 1.0 “Building Strong Healthy Communities”**

#### **Section 2.0 “Wise Use and Management of Resources”**

*Table 2: Provincial Policy Statement Evaluation*

<b>Policy Evaluation</b>
<b><i>1.0 Building Strong Healthy Communities</i></b>
<b><i>1.1 Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns</i></b>



#### **1.1.4 Rural Areas in Municipalities**

##### **1.1.4.1 Healthy, integrated and viable rural areas should be supported by:**

###### **a) building upon rural character, and leveraging rural amenities and assets:**

*There will be virtually no impact on the rural character of the surrounding area as a result of the zoning by-law amendment and subsequent severance. The creation of one new rural residence would be in keeping with the rural nature and uses of the surrounding area as the residence will not be visible from the Sideroad 10 or Highway 6.*

###### **h) conserving biodiversity and considering the ecological benefits provided by nature:**

*As noted, an updated EIS was required as part of the application requirements as a significant natural feature (PSW) occurs on the site. A development setback of 15 metres from the PSW has been recommended by the EIS which has been shown on map 2.*

*There is sufficient area on both the new and retained lots to implement these required setbacks. When a dwelling is constructed on site, the EIS recommends the following to avoid any direct or indirect impacts to the natural heritage features on site in the adjacent lands:*

- To avoid impacts to nesting birds and wildlife, any tree cutting should be scheduled outside of the peak nesting season (late May to early July) and preferably should occur in the fall-winter to protect wildlife,*
- A sediment control fence should be installed at the limit of the work area throughout the construction period, until bare soils have been stabilized, to prevent sediment-laden runoff from entering the wetland during rain events,*
- On the proposed lot, the septic system is to be located as far away as possible from the wetland, (approximately 20m from the wetland boundary) on the west side of the lot. The retained lands have ample room for a septic bed while providing a setback to the wetland.*
- Landscaped areas should be minimized and not encroach into the natural areas. Construction of pools, patios, decks and sheds should be within the development envelope.*
- Use of lawn and garden chemicals should be reduced or eliminated,*
- Any landscape plantings should make use of native species suitable for the site. Care should be taken to avoid aggressive non-native species (such as Norway maple, lily-of-the-valley, periwinkle, goutweed, etc.) which can spread into natural areas and out-compete native flora,*
- Grass clippings, yard waste and rubbish should not be dumped in the natural areas.*

*Adhering to the EIS recommendations will implement this PPS goal. As noted earlier in this report, any future development will require permitting by the SVCA. Staff of the SVCA can address the EIS requirements at the permitting stage.*

### **1.1.5 Rural Lands in Municipalities**

#### **1.1.5.2 On rural lands located in municipalities, permitted uses are: (in part)**

**a) the management or use of resources;**

**b) resource-based recreational uses (including recreational dwellings);**

**c) residential development, including lot creation, that is locally appropriate;**

*Although a limited amount of residential growth is permitted on rural lands, both the County and the Local Official Plans required an EIS in order to be assured that any residential development maintains the integrity of the natural heritage features on the subject lands.*

#### **1.1.5.4 Development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted.**

*Municipal services such as garbage, public school bussing, etc. are available on Sideroad 10. No additional hard infrastructure would be required from the municipality as both the severed and retained lot would be serviced via private wells and septic systems. The proposal meets the goal of Section 1.1.5.4 of the PPS.*

#### **1.1.5.8 New land uses, including the creation of lots, and new or expanding livestock facilities, shall comply with the minimum distance separation formulae.**

*MDS I calculations were completed for the active horse barn southwest of the subject lands. Any future development can be placed outside of the required MDS I setback area from this barn, complying with MDS formulae and therefore meeting provincial requirements (please see Appendix 2).*

## **2.0 Wise Use and Management of Resources**

### **2.1 Natural Heritage**

#### **2.1.1 Natural features and areas shall be protected for the long term.**

#### **2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.**

*As indicated earlier in this report, an updated EIS was required by the municipal planner as part of the complete application requirements for this submission. As the area proposed for severance is adjacent to the Letterbreen Bog PSW, an EIS was required to demonstrate no negative impact from the proposed lot or future development.*

*The EIS concluded that the potential for loss of natural heritage features from future development on the proposed lot is limited as development would occur on previously disturbed lands in the southwestern area and on uplands in the southeast of the property.*

*The EIS recommends that because of the low impact of the proposed residential development, only a 15-metre development setback from the PSW is required.*

*The future development in the southeast and southwest of the Township lot would also be regulated at the building permit stage by the SVCA.*

*With the implementation of the mitigation requirements of the EIS and the requirements of the SVCA, the proposal will remain consistent with Section 2.1.8 of the PPS.*

**Summary:**

*This proposal is consistent with the Provincial Policy Statement as limited development is permitted in Rural areas and the proposal meets provincial requirements related to the protection of natural heritage resources.*

## 2.2 County of Grey Official Plan (GCOP, Recolour Grey)

Lot 21, Concession 1 is designated as Rural, Wetlands and Hazard Lands in the Grey County Official Plan reflecting primarily the provincially significant wetland. The portion of the Township lot to be severed contains a Rural designation.

The dominant feature on the subject lands is the Letterbreen Bog and a review of the Natural Heritage policy is the most significant policy affecting the subject lands.



Figure 2: Grey County Official Plan (Excerpt)



Table 3: Grey County Official Plan Evaluation (Recolour Grey)

Policy Evaluation
<b>7 Natural Grey</b>
<p><u>Natural Grey features include land use types including Hazard Lands and Provincially Significant Wetlands and Significant Coastal Wetlands that are identified on Schedule A. These land use types include specific policies and permitted uses that can be considered either within these areas or adjacent to these areas. The other natural features and areas are constraints, which are identified on Appendix A and Appendix B. For constraints, development can be permitted within these areas or adjacent to these areas, subject to addressing the specific policies identified in this Section, or any provincial and federal requirements. Natural Grey land use types and constraints are as follows:</u></p> <p><u>Land Use Types</u></p> <ul style="list-style-type: none"> <li>• <u>Hazard Lands</u></li> <li>• <u>Provincially Significant Wetlands and Significant Coastal Wetlands</u></li> </ul>
<p>Portions of Schedule A and B (and C) have been included in (figure 1 and 2) to indicate the various areas covered by the designation.</p>
<b>7.2 Hazard Lands (in part)</b>
<p><u>Hazard Lands include floodplains, steep or erosion prone slopes, organic or unstable soils, poorly drained areas, and lands along the Georgian Bay shoreline. These lands can be impacted by flooding, erosion, and/or dynamic beach hazards or have poor drainage, or any other physical condition that is severe enough to pose a risk for the occupant, property damage, or social disruption if developed. While these lands are intended to be regulated so as to avoid natural hazards, they also contribute to the natural environment within the County.</u></p> <p><u>New development shall generally be directed away from Hazard lands.</u></p>
<p>The subject lands, Lot 21, Concession 1, contains three designations, Wetlands, Hazard and Rural. The Wetlands designation reflecting the Letterbreen Bog, covers most of the property. Sections of hazard lands border the Bog which is classified as a Provincially Significant Wetland (PSW). There are several pockets of rural lands on the southeast and southwest.</p> <p>The GCOP reflects the provisions of the PPS with respect to the protection of natural heritage features and the creation of residential development outside of settlement areas. As noted above, the most dominant feature on the property is the Letterbreen Bog and the provisions of “Natural Grey” are the most significant County policy to be considered in the review of this proposal.</p>

9) In the Hazard Lands land use type development and site alterations will only be considered if all of the following can be satisfied:

b) No adverse environmental impacts will result. The County, in consultation with the conservation authority, may require an environmental impact study to be prepared at the proponent's expense, in accordance with this Plan;

Although the mapping from the County Official Plan indicates that there are no Hazard lands in the southwest corner of the lot where the consent is proposed, the municipality and the Conservation Authority required an EIS.

The EIS was also required to define the extent of the PSW and provide mitigation measures. These measures are outlined in the previous assessment of the PPS policy.

### **7.3 Wetlands**

The County generally encourages development be setback from Wetlands by at least 30 metres. In some cases this 30 metres distance can be reduced based on site specific circumstances, or through the completion of an EIS.

#### **7.3.1 Provincially Significant Wetlands and Significant Coastal Wetlands**

1) No development or site alteration is permitted within the Provincially Significant Wetlands and Significant Coastal Wetlands land use type (shown on Schedule A), except where such activity is associated with forestry and uses connected with the conservation of water, soil, wildlife, and other natural resources but does not include buildings and will not negatively impact the integrity of the Wetland.

2) No development or site alteration may occur within the adjacent lands of the Provincially Significant Wetlands and Significant Coastal Wetlands land use type unless it has been demonstrated through an environmental impact study, as per Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions.

Development or site alteration within the adjacent lands of the Provincially Significant Wetlands and Significant Coastal Wetlands land use type will require a permit from the appropriate conservation authority.

The proposal will create a lot and building envelope that is within the adjacent lands of the Letterbreen Bog PSW. An EIS was prepared in 2007 which identified a building envelope in the southwest corner of the 35.4 ha Township lot.

At the request of the municipal planner and the SVCA, the proponent retained Natural Resource Solutions Inc. to update the 2007 study to assess environmental changes that may have occurred during the intervening fourteen years.

*The 2021 study (Appendix 3) identified two elevated areas of the Township lot that could support limited residential development. The site in the southwest corner had been cleared somewhat to accommodate a building and servicing area as well as a lane based on the 2007 EIS. The southeast section of the site contains a rounded hill area that was previously cleared. The EIS confirmed that this would be an acceptable building site, subject to setbacks, on the retained land.*

*The 2021 Natural Resources Solutions Inc. EIS was found acceptable to the SVCA. The Conservation Authority will require an “Application to Alter a Regulated Area” prior to any permits being granted for the building, laneway and servicing.*

*The SVCA identified a number of mitigation measures from the EIS that should form conditions of approval for the consent including the use of a Waterloo Biofilter sewage disposal system.*

*The EIS, including the mitigation measures, along with the approval of the SVCA have met the Natural Grey requirements of the GCOP.*

## **5 Cultivate Grey**

### **5.4 Rural Land Use Type**

*The predominant land uses within the Rural land use type will be agriculture, aggregate extraction, recreation, and forestry. While this land use type will continue to protect the existing farming operations and maintain the visual appearance of a rural landscape, the Rural areas will permit the consideration of resource based recreational uses and other appropriate rural land uses so long as they do not impact agriculture, forestry, aggregate extraction, or the natural environment.*

#### **5.4.1 Uses Permitted Policies**

*1) The Rural land use type on Schedule A shall permit all uses permitted in Section 5.2.1 of this Plan (the Agricultural land use type).*

*The creation of a small rural non-farm property is a permitted use in the rural designation. The proposal will not alter the rural landscape as it will be surrounded by existing relatively mature treed areas. In order to ensure the creation of the lot will not impact any agrarian operations in the vicinity, an MDS calculation has been prepared and is included in Appendix 2 to this report.*

#### **5.4.2 Development Policies**

*2) Minimum lot size within the Rural land use type for non-agricultural uses shall be determined by the zoning by-law of the local municipality and shall address the requirements of Sections 8 and 9 of this Plan. Unless otherwise specified new non-farm sized lots shall be a minimum of 0.8 hectares in size.*

*The proposed 0.9 ha lot will meet the above noted minimum lot area provision.*

*5) The Provincial Minimum Distance Separation (MDS) formulae policies found in section 5.2.2 of this Plan shall also apply to the Rural land use type.*

*As noted previously, an MDS calculation was prepared and determined that the closest livestock structure was 700 m from the proposed lot and would not be impacted by the rezoning and subsequent severance.*

*6) For any non-agricultural uses to be permitted within the Rural land use type, all of the following shall be satisfied:*

*a) The development policies of Section 5.2.2, the Agricultural land use type, shall also apply to the Rural land use type, except where it makes reference to farm lot sizes and surplus farmhouse severances.*

*b) That development on productive agricultural land be discouraged. Where development is proposed on productive agricultural land (i.e. land that is currently or has recently been used for farm purposes) it shall be demonstrated that no reasonable alternative exists. The investigation for a reasonable alternative shall be limited to the lot to be developed.*

*The proposed rezoning and consent will not impact the potential use of land on the Township lot for agrarian use. The land on the east side of the lot has the potential for non-farm residential development.*

#### **5.4.3 Consent Policies**

*1) All consents for new lot development shall be no smaller than 0.8 hectares in area, and the maximum lot density shall not be exceeded as outlined in Table 9 below. The lot density is determined based on the original Township lot fabric (i.e. as determined by the original crown survey) and shall be pro-rated up or down based on the size or the original Township lot. Any proposed increase to this maximum lot density will require an amendment to this Plan, and will require justification as to the need for additional Rural lot creation.*

*The Township lot is approximately 35 ha which would permit one non-farm residential consent. The rezoning to permit the consent conforms to the above noted policy.*

*Section 5.4.3 1) also requires a proposed lot to not exceed a frontage to depth ratio of 1:3 as well as conforming to the applicable zone provisions. Exceeding the frontage to depth ratio of 1:3 requires justification. The proposed lot has a frontage to depth ratio of 1:1.6 (+/-76m: +/- 122m), thus conforming to the above noted provision.*

**Summary:**

*The proposed consent affects the Natural Grey provisions of the GCOP as well as the Rural consent provisions. The updated EIS demonstrated that the proposed zoning and subsequent consent satisfied the provisions of the Official Plan for safeguarding PSWs and the consent is within the parameters for lot density of the Rural Official Plan requirements.*

### 2.3 Township of Southgate Official Plan (TSOP)

The TSOP contains three designations on Lot 21, Concession 1, the primary designation being a Wetland designation reflecting the Letterbreen Bog PSW. These designations are similar to those in the County Official Plan.

Lot 21, Concession 1 also contains Hazard designations which occur around the periphery of the PSW, primarily near the northern edge of the PSW. A small Rural designation is located near the southwest boundary of Lot 21 Concession 1.

The policies of the TSOP pertaining to the Natural Environment Areas are similar to the Provincial Policy Statement and County of Grey Official Plan.

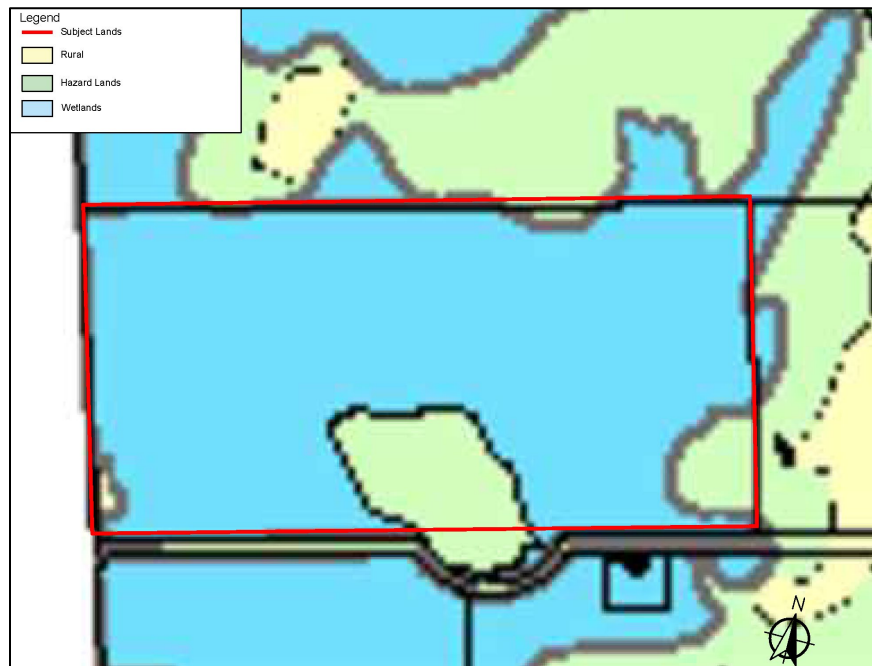


Figure 3: Township of Southgate Official Plan (Excerpt)



Table 4: Township of Southgate Official Plan (TSOP) Evaluation

Policy Evaluation
<b>6.0 Natural Environment Area</b>
<b>6.1 Wetlands &amp; 6.1.2 Development Policies</b>
<p><u>The purpose of the Wetlands designation is to recognize and protect Provincially Significant Wetlands. The mapping for the Provincially Significant Wetlands (PSW) has been provided by the Ministry of Natural Resources, as shown on the Schedules to this Plan.</u></p> <p><u>(a) No development or site alteration is permitted within the Provincially Significant Wetland designation, except where such activity is associated with forestry (excluding logging) and uses connected with the conservation of water, soil, wildlife and other natural resources, provided the integrity of the Wetland will not be negatively impacted. Buildings and/or structures are not permitted within lands designated Provincially Significant Wetlands.</u></p> <p><u>(b) No development or site alteration shall be permitted on adjacent lands located within 120 metres of an identified Provincially Significant Wetland (PSW), unless the proposed method of avoiding or mitigating the potential impacts, of such development on the adjacent resource is satisfactory to the Township of Southgate and/or other responsible approval authority, as demonstrated through the preparation of an Environmental Impact Study (EIS), prepared in accordance with the terms of reference in Section 6.5.8 below.</u></p> <p><u>c) Minor alteration of wetland mapping may occur without amendment to the Official Plan, provided approval is obtained from the Municipality, the County of Grey and where required, the Ministry of Natural Resources, and may require the successful completion of an Environmental Impact Study.</u></p> <p><u>(d) The implementing zoning by-law will incorporate appropriate standards for buffer planting, setbacks and any other standards.</u></p>
<p>The preparation of an EIS in accordance section 6.5.8 was prepared by Natural Resource Solutions Inc. and approved by the Municipality and the SVCA. The EIS clarified the extent of the PSW and prescribed mitigation measures to address any possible impacts to the PSW (Appendix 3, page 5,6).</p> <p>Approval of the updated EIS confirmed the conformity of the proposed rezoning and consent with the applicable Natural Environment Area provisions of the TSOP.</p> <p>The lot is proposed in the southwest corner of Lot 21, Concession 1 where an area of Rurally designated lands are shown on the Schedules to the upper and lower tier Official Plans (figure 2 and figure 3).</p>

*The Rural policy in the TSOP is contained in section 5.2 and permits a variety of uses including low density non-farm residential (5.2.1.i).*

## **5.2 Rural**

### **5.2.2 Consent Policies**

*A maximum of one severance may be permitted for every 40 hectares of land, and the options for consent are:*

*3. Lots may be considered for rural residential uses, provided the lot shall be a minimum of 0.8 hectares in area with a frontage to depth ratio of 1:2.*

*The proposal zoning will permit one consent to be created on the original Township lot which conforms to the above noted provision.*

*The lot will be 0.9 ha in area and meet the area provisions of subsection 3.*

*The County restricts the frontage to depth ratio to 1:3, which is satisfied as the proposal reflects a ratio of 1:1.6. The ratio of 1:2 in subsection 3 does not specify a maximum or minimum. The 1:1.6 is in keeping with the direction provided in the TSOP.*

*7. In addition to Sections 7.4, 8.0 and 9.0, the following conditions must be met:*

*a. the lot severed for the non-farm use shall be rezoned for the appropriate use;*

*b. the lots severed for the non-farm use is no larger than necessary but large enough to accommodate the use and on-site servicing; and,*

*c. the minimum distance separation distance can be met.*

*With regard to subsection 5.2.2.7, the property will be zoned to permit a non-farm residential consent and will be in keeping with the minimum lot size provisions in subsection 5.2.2. As noted previously, an MDS calculation is provided in Appendix 2 and confirms that there is no conflict with any nearby livestock operations.*

*The Rural consent policies references the “General Lot Consent Policies” contained in Section 7.4. A review of the relevant provisions of Section 7.4 follows.*

### **7.4 General Lot Creation Policies**

*Where division of land is considered, the approval authority shall have regard to the policies of this Plan, the matters set out in the Planning Act, R.S.O. 1990, as amended and the following considerations:*

*a) The land division is permitted by the land use policies of this Plan.*

*b) The land division shall promote development in an orderly and contiguous manner, and shall not conflict with the established development pattern of the area.*

c) The proposed use is compatible with existing and permitted future land uses on adjacent lands.

d) The servicing requirements of this Plan shall be met.

e) New lots will not be permitted where the proposed access would create a traffic hazard because of limited sight lines.

g) There shall be evidence that soil and drainage conditions are suitable to permit the proper siting of buildings, that a sufficient and potable water supply exists, and that an adequate means of sewage disposal can be provided.

k) The creation of new lots must comply with Minimum Distance Separation Formulae, where appropriate.

m) All new entrances will be subject to the approval of the appropriate road authority (ie. Township of Southgate, County of Grey).

n) The creation of new lots with frontage on a public road which is not maintained year round, is not permitted.

o) The creation of new lots will only be permitted upon approval by the Chief Building Official, of a private sewage treatment system.

The proposal is permitted by the Rural lot creation provisions and will not create any traffic hazard as the entrance onto Southgate Road 10 is controlled by the Municipality through the issuance of an entrance permit. The proposal will create the only lot permitted by the lot density provisions and will not impact any surrounding developments or alter the rural and environmental character of the area as any residential development will be screened from public view by the existing vegetation.

The EIS prepared for the proposal identified building envelope and direction on the method of servicing for the site as well as mitigation measures to safeguard the integrity of the wetland.

An MDS calculation is required by the County and TSOP and is included in Appendix 2.

The lot will front on Southgate Road 10, a year round municipal road and the exact location and entrance design will be controlled through the Township entrance permit process.

The Chief Building Official is responsible for the construction of buildings and sewage systems and generally not for the approval of lot creation. However, no concerns have been voiced by Municipal staff to date on the creation of the proposed lot.

**Summary:**

*The preparation of an EIS has confirmed the conformity of the proposed zoning with the key provisions of the TSOP.*

## 2.4 Township of Southgate Comprehensive Zoning By-Law 19-2002

The area proposed for the lot will contain lands zoned A1 as well as Wetlands. The EIS has identified building envelopes on Map 4 which are beyond the setback requirements from the PSW. The amending by-law should reflect the boundary of the PSW as well as the 15m buffer area, thereby restricting building and servicing areas to a redefined A1 area.

A proposed Schedule for the zoning by-law amendment is shown in Appendix 4.



Figure 4: Township of Southgate Zoning (Excerpt)

## 3.0 SUMMARY AND CONCLUSIONS

The 2007 EIS and the 2021 update, confirmed the potential for building and servicing envelopes in the southwest corner of the Township lot. As well, the EIS confirmed the building area on the southeast section of the retained lot would not be affected by the proposed consent. Based on the preceding policy analysis and the attached EIS, the following is be concluded:

- 1) The proposed rezoning and subsequent consent is compliant with the provisions of the PPS.

- 2) The redefined Wetland and A1 boundaries, based on the EIS do not contravene any Official Plan policy in the County or Township Official Plans.
- 3) The SVCA permit which will incorporate the mitigation provisions of the EIS will ensure a suitable development in harmony with the environmental characteristics of the lot and the surrounding area.
- 4) This proposal represents appropriate rural land use planning principles.

Respectfully prepared by,



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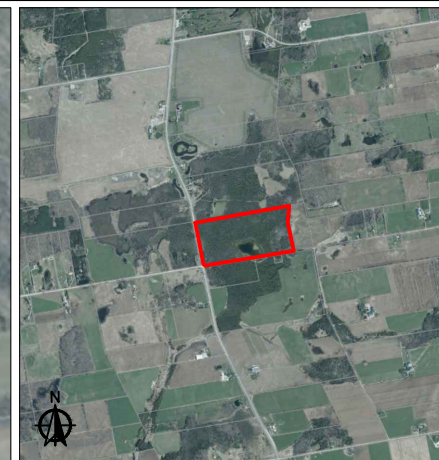
Approved by Don Scott, MCIP, RPP  
Cuesta Planning Consultants Inc.





# Appendix 1

Proposed Site Plan



Part Lot 21, Concession 1  
Geographic Township of Egremont  
Township of Southgate  
County of Grey

#### Legend

- Subject Lands
- Proposed Lot

\* measurements are approximate



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File:	Project Name:
<b>x221172</b>	<b>Crummer</b>

# Appendix 2

MDS Calculations and Mapping

MDS I

General information

Application date Jun 10, 2022	Municipal file number	Proposed application Lot creation for a maximum of three non-agricultural use lots
Applicant contact information Barbara Crummer ON	Location of subject lands County of Grey Township of Southgate EGREMONT Concession 1 , Lot 21 Roll number: 420706000305800	


Calculations

New farm

Farm contact information Not Specified 102746 Road 49 West Grey, ON	Location of existing livestock facility or anaerobic digester County of Grey Township of West Grey NORMANBY Concession 1 , Lot 22 Roll number: 420501000700110	Total lot size 41 ha
--	---	-------------------------

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Beef, Cows, including calves to weaning (all breeds), Yard/Barn	174	174.4 NU	810 m²



Confirm Livestock/Manure Information (New farm)

The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Setback summary

Existing manure storage	V3. Solid, outside, no cover, >= 30% DM		
Design capacity	174.4 NU		
Potential design capacity	450 NU		
Factor A (odour potential)	0.7	Factor B (design capacity)	534.52
Factor D (manure type)	0.7	Factor E (encroaching land use)	1.1

Building base distance 'F' (A x B x D x E)  
(minimum distance from livestock barn)

289 m (948 ft)

Actual distance from livestock barn

663 m (2175 ft)

Storage base distance 'S'  
(minimum distance from manure storage)

No existing manure storage

Actual distance from manure storage

NA

Preparer signoff & disclaimer

Preparer contact information  
Vaishnan Muhunthan  
Cuesta Planning Consultants Inc.

**Signature of preparer**



**06-10-2022**

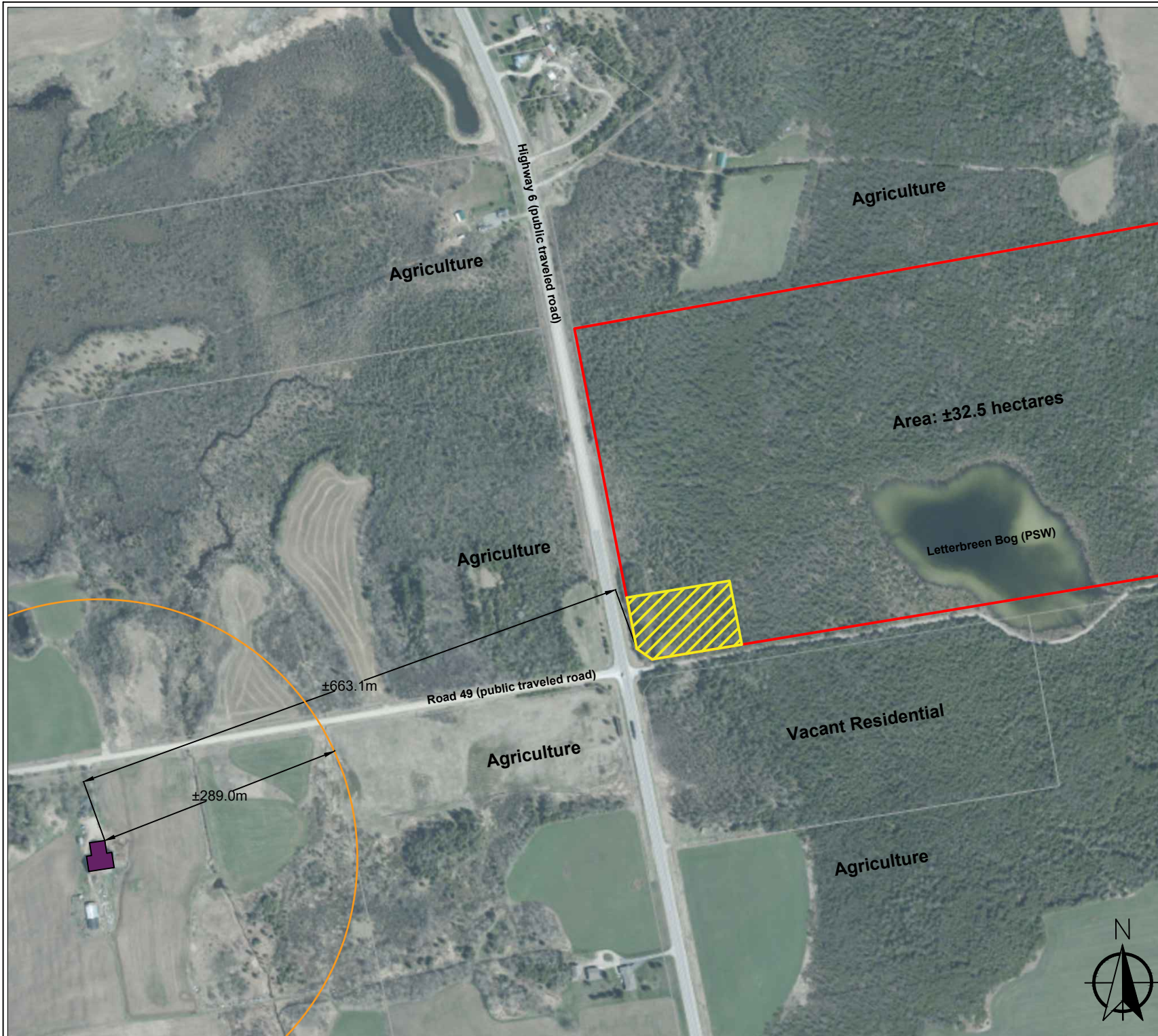
**Vaishnan Muhunthan , Junior Land Use  
Planner**

**Date (mmm-dd-yyyy)**

**Note to the user**

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has developed this software program for distribution and use with the Minimum Distance Separation (MDS) Formulae as a public service to assist farmers, consultants, and the general public. This version of the software distributed by OMAFRA will be considered to be the official version for purposes of calculating MDS. OMAFRA is not responsible for errors due to inaccurate or incorrect data or information; mistakes in calculation; errors arising out of modification of the software, or errors arising out of incorrect inputting of data. All data and calculations should be verified before acting on them.





Part Lot 21, Concession 1  
Geographic Township of Egremont  
Township of Southgate  
County of Grey

#### Legend

- Subject Lands
- ▨ Proposed Lot
- Barn
- MDS 1 Setback Radius

\* measurements are approximate



978 First Avenue West  
Owen Sound, Ontario  
N4K 4K5  
(519) 372-9790  
Fax: (519) 372-9953  
1-800-653-7692  
e-mail: [cuesta@cuestaplanning.com](mailto:cuesta@cuestaplanning.com)

Dwn. By:	Date Printed:
<b>V.Muhunthan</b>	<b>June 10 2022</b>
File:	Project Name:
<b>x221172</b>	<b>Crummer</b>

Type text here

## Appendix 3

Environmental Impact Assessment, September 15, 2021,  
Natural Resource Solutions Inc.



September 15, 2021

2651

Jayden Shelton  
Resources Information Technician  
Sasugeen Conservation  
1078 Bruce Road 12  
Formosa, ON N0G 1W0

Clinton Stredwick  
Municipal Planner  
Township of Southgate  
185667 Grey County Road 9  
Dundalk, ON N0C 1B0

Dear Mr. Shelton and Mr. Stredwick,

**Re: Part Lot 21, Concession 1, Former Township of Egremont, Grey County  
Environmental Impact Study**

Natural Resource Solutions Inc. was retained by Mrs. Barbara Crummer to prepare an update to an EIS for a single lot development at the above-noted address. NRSI previously prepared an EIS for the development of a single house in the south west corner of this property in 2007 for Mr. Sid Guy, the landowner at the time. The EIS was approved and the landowner proceeded with some clearing for the house, but it was not built.

Mrs. Crummer wishes to have a single lot severed at this same location, which she will purchase from the current landowner (Mr. Falladown) and then move forward with constructing a house. The remainder of the lands will continue to be owned by the current landowner (Mr. Falladown). This letter report provides an update to the previous EIS based on 2021 field work and updated background information.

A brief Terms of Reference for this EIS was provided by email to the Township of Southgate and the Saugeen Valley Conservation Authority (SVCA) for review and was approved in August 2021. It is understood that this EIS is to address the proposed severed lot as well as a building envelope on the retained lands. This EIS outlines the existing conditions, discusses the significance and sensitivity of the wetlands on-site and provides an analysis of potential impacts based on the development of a house on the proposed lot and the retained lands.

## **Introduction**

The subject property is approximately 34.5ha as shown on Map 1, and is primarily wetland, being part of the Letterbreen Bog provincially significant wetland. In the Schedules of the Grey County and Township of Southgate Official Plans and the Township Zoning Bylaw (2009), much of the property is shown as Wetland or Provincially Significant Wetland. A small area is excluded from the wetland at the southwest corner, while the uplands at the eastern end of the property are shown as agricultural (Grey County 2019, Township of Southgate 2009 and 2020).

The Official Plans of the County and the Township state that an EIS is required when development is proposed adjacent to provincially significant wetlands:

*“No development or site alteration shall be permitted on adjacent lands located within 120 metres of an identified Provincially Significant Wetland (PSW), unless the proposed method of avoiding or mitigating the potential impacts, of such development on the adjacent resource is satisfactory to the Township of Southgate and/or other responsible approval authority, as demonstrated through the preparation of an Environmental Impact Study (EIS), prepared in accordance with the terms of reference in Section 6.5.8 below.”* (Section 6.1.2 Township of Southgate).

The Saugeen Valley Conservation Authority (SVCA) regulates the whole of the subject property due to the presence of provincially significant wetlands and lands within the area of interference of the wetland (within 120m) as per Ontario Regulation 169-06 (2013). Development and alteration is generally not permitted within wetlands or the area of interference unless it can be shown that the proposal can proceed without impacting the wetland. The SVCA provides policies for when an EIS is required and what it should address in its Environmental Regulations and Planning Policies Manual (SVCA 2018).

## **Methods**

The natural features on the subject property were characterized through background information and field survey data. Background information was collected from the SVCA, Natural Heritage Information Centre (NHIC) online database and the wildlife atlases. Biologists visited the property on June 17 and July 14, 2021 to update the field data from 2007 which included site visits on May 17, June 26, August 31 and October 4, 2007. These visits focused on the area of the proposed house, the southwest corner of the property as well as the uplands at the eastern edge of the property as a building envelope for the retained lands. Vegetation communities were mapped and described, the wetland boundary was flagged and an inventory of wildlife and plants was undertaken, including an early morning visit on June 26 to document nesting birds.

## **Findings**

### Soils and Physiography

The property is relatively level with the wetland occupying the low lying lands over much of the property. The land rises to the east, where upland vegetation and agricultural lands are found. A slight rise is found in the south west corner, which may have been created by fill during road construction historically.

Soil investigations in the south west corner found a 20cm layer of sandy loam over 30+cm of sand with small gravel. A hand held dutch soil auger was used, which could not penetrate deeper than 50cm due to the presence of gravel. In 2017, the landowner subsequently dug a test pit, finding 30cm sandy loam over >1m sand and gravel. Within the wetland, organic soils were found extending over 1m in depth.

### Vascular Plants

A total of 81 species of vascular plants were observed in the area of the proposed house/building envelope and the adjacent wetland. A list of these species is appended to this letter. No significant species of plants are known from the background information, and none were observed during the field work.



### Vegetation Communities

The vegetation communities on the property were determined based on the Ecological Land Classification System for Southern Ontario (Lee et al 1998) and area described below and shown on Figure 2.

#### FOC4-1 Fresh-Moist White Cedar Coniferous Forest

A small area in the southwest corner of the property consists of upland coniferous forest dominated by white cedar and also tamarack. Trees were roughly 10 to 25cm in diameter, with dense regeneration of young cedars. The trees form a dense canopy, blocking out sunlight, resulting in very little groundcover. The previous landowner cleared an area for the approved house and septic, and this area is currently occupied by open meadow with herbaceous plants including avens, dandelion, enchanter's nightshade, tall buttercup and blue violet. A driveway entrance is present from Sideroad 10. Soils are sandy loam over sand and gravel, possibly fill.

In the southeast corner of the property, there is a rounded hill abutting the east property boundary. This area is forested with white cedar and balsam fire as well as tamarack. The easternmost part of this polygon was previously an open area as can be seen in older air photos (2005) and has been regenerating with tamarack and black cherry as well as a few other species such as white elm and hawthorn. Along the eastern edge, trees are widely spaced and range from 10-24 cm in diameter approximately. Groundcover is herbaceous plants such as smooth brome grass, Canada goldenrod, timothy and smooth bedstraw. A driveway entrance had been constructed here in the past and clear areas are present which could accommodate a building envelope.

#### SWC4-2 Tamarack Organic Coniferous Swamp

The majority of the wetland as was investigated for this project is a coniferous swamp dominated by tamarack and white cedar. Willow shrubs, red osier dogwood, winterberry, meadowsweet and bittersweet nightshade form a dense shrub layer. The wetland evaluation identified this area as tall shrub swamp, dominated by cedar and tamarack. Over the time since the wetland evaluation was completed, the cedar and tamarack have grown from shrub height to tree height and is now considered a coniferous swamp. The ground is saturated and spongy with mosses, sedges and ferns. Soils are deep organic, consisting of >100 cm of peat.

### Wildlife

Background data on wildlife species known from the study area has been compiled with the observations of wildlife observed on the subject property. Lists of wildlife species are appended to this letter.

A total of 35 species of birds were observed on the subject property between the two studies (2007 and 2021), with almost all species being observed in suitable habitat during the nesting period. Other wildlife species observed included raccoon, chipmunk, white-tailed deer, groundhog, skunk, midland painted turtle, green frog and leopard frog. The wetland data record indicates that the wetland provides habitat for fish spawning and rearing and furbearers such as raccoon, beaver, mink and fox. The wetland is locally significant for providing winter deer habitat.

A number of significant wildlife species including Species At Risk (SAR) are known from the data in the wildlife atlases including birds - Eastern Meadowlark, Bobolink, Bank



Swallow, Barn Swallow and Wood Thrush; turtles – snapping turtle and midland painted turtle; and mammals – bat species (*Myotis lucifugus*, *M. septentrionalis* and *Perimyotis subflavus*), woodland vole and American badger. The only significant wildlife species observed on-site is the midland painted turtle which is designated Special Concern in Canada (COSEWIC 2021). This species was observed in the open water body of Mud Lake. The wetland on-site provides suitable habitat for some of these significant species including the bats, midland painted turtle and snapping turtle.

### **Significance and Sensitivity**

The Letterbreen Bog wetland is provincially significant and will be sensitive to potential impacts of development. The wetland contains treed swamp, open water and marsh communities as well as an area of bog. Bog wetlands are uncommon in southern Ontario and the treed tamarack bog found in the wetland is rare in both southern Grey County and Southern Ontario. Bogs develop under specific conditions which create a peat-accumulating wetland, raised above the water table, which relies on precipitation only for water and nutrients. Bogs are characterized by acidic conditions and develop plant communities which are specialized for this habitat, such as sphagnum mosses.

The wetland has been disrupted by the construction of Highway 6 through the middle of it, as well as other side roads. Current land uses and potential development of the lands around the wetland are also a threat. Any activity which can disrupt the surface water and groundwater flows to the wetland may cause negative impacts to the wetland.

The wetland boundary in the southwest corner was flagged by NRSI in 2007 and was reviewed and updated in 2021. The boundary was surveyed by NRSI using a Trimble R10 GPS pole and is shown on Map 2. The wetland boundary in the southeast part of the property was investigated in 2007 and 2021, but was not flagged due to the separation distance available for a building envelope. The wetland boundary has not changed significantly since 2007 and is similar to that shown on mapping available from the MNRF (NHIC 2021).

### **Proposed Development**

The future landowner (Mrs. Crummer) wishes to sever a lot for the purpose of constructing a single house with associated driveway, well and septic system. In order to do this, it is necessary to show a suitable building envelope on the retained lands as well. Given the extent of wetland on this property, there are only two potential locations for a house; the proposed lot at the southwest corner of the property, adjacent to Highway 6, and the southeast corner of the property, off of Southgate Road 10. The previously approved layout from 2007 is satisfactory to Mrs. Crummer and she wishes to proceed with this design. This layout is shown on Map 4 and has not changed.

Map 5 shows the potential layout for a house and septic bed on the retained lands. This sketch utilizes the same house and septic footprint as the severed lot, for convenience. It is expected that any future development on this location may prepare a different concept, however there is ample room to accommodate this.

The layout of the proposed severed lot was prepared knowing the significance and sensitivity of the adjacent wetland, and the house was designed with as little impact as possible. It is modest in size (2,000 sq.ft.), no basement, limited clearing and grading for the driveway and lawn area, and includes an advanced septic treatment system which takes up very little area. The septic system is known as the Waterloo BioFilter System

which requires roughly an area of 20m x 14m and was approved for use in Ontario by the Building Materials Evaluation Commission in 1999. A brochure on this system is appended to this report.

### **Buffers**

Since the proposed development on the proposed lot and the retained lands each consist of a single house, with limited potential for impacts, a buffer of 15m from the wetland has been recommended.

### **Impact Analysis**

All features of the development on the proposed lot have been located within the development envelope. The house, driveway and well have been located more than 15m away from the wetland, with the septic system more than 20m from the wetland. There will be no direct impact to the wetlands on the property, and the 15-20m buffer will prevent or minimize any potential indirect impacts to the wetland.

On the proposed lot, the house, driveway, septic system and well will be located in the upland area, using the existing cleared opening and removing a few more trees. The septic system has been located on the west side of the lot, farther from the wetland. Some additional upland white cedar may need to be removed. The existing driveway entrance will be used.

On the retained lands, the house, driveway, well and septic system will be located in the upland area, making use of the existing open meadow area. A few additional trees may need to be cleared to allow for flexibility in the house design and location. This building site provides ample separation from the wetland boundary, well over 15m, and likely 30m depending on the future design. The existing driveway entrance will be used and may require some upgrades.

Potential indirect impacts due to the development of the proposed lot, or the retained lands could arise from the following:

- erosion of soils from the site during construction
- septic system impacts
- human induced impacts

The following are recommended measures to mitigate the possibility of the indirect impacts:

- To avoid impacts to nesting birds and wildlife, any tree cutting should be scheduled outside of the peak nesting season (late May to early July) and preferably should occur in the fall-winter to protect wildlife,
- A sediment control fence should be installed at the limit of the work area throughout the construction period, until bare soils have been stabilized, to prevent sediment-laden runoff from entering the wetland during rain events,
- On the proposed lot, the septic system has been located as far away as possible from the wetland, (approximately 20m from the wetland boundary) on the west side of the lot. The retained lands have ample room for a septic bed while providing a setback to the wetland.
- Landscaped areas should be minimized and not encroach into the natural areas. Construction of pools, patios, decks and sheds should be within the development envelope.

- Use of lawn and garden chemicals should be reduced or eliminated,
- Any landscape plantings should make use of native species suitable for the site. Care should be taken to avoid aggressive non-native species (such as Norway maple, lily-of-the-valley, periwinkle, goutweed, etc.) which can spread into natural areas and out-compete native flora,
- Grass clippings, yard waste and rubbish should not be dumped in the natural areas.

### **Summary**

The subject property is dominated by wetlands of the Letterbreen Bog provincially significant wetland. The severance of a single lot has been proposed and this EIS provides an update to the feasibility and potential impacts of developing a single house on this lot, as well as on the retained portion of the lands. The proposed location of the lot and its layout is the most feasible based on accessibility. A development envelope has been recommended using a 15m buffer from the wetland boundary. The proposed house, driveway, well and septic system has been designed to minimize potential impacts to the wetland by limiting clearing, grading and building and septic size. The retained lands have a suitable building envelope with ample space for a house and amenities while providing a buffer to the wetland. Recommendations are provided to assist in avoiding any potential indirect impacts which could arise during construction and residency.

I trust that this is satisfactory. If you have any questions, please do not hesitate to contact me.

Sincerely,  
Natural Resource Solutions Inc.



M. Elaine Gosnell, B.Sc., P. Biol.  
Senior Wetland and Terrestrial Biologist

### **References**

Grey County. 2019. County of Grey Official Plan Schedule A Land Use Types Map 2.

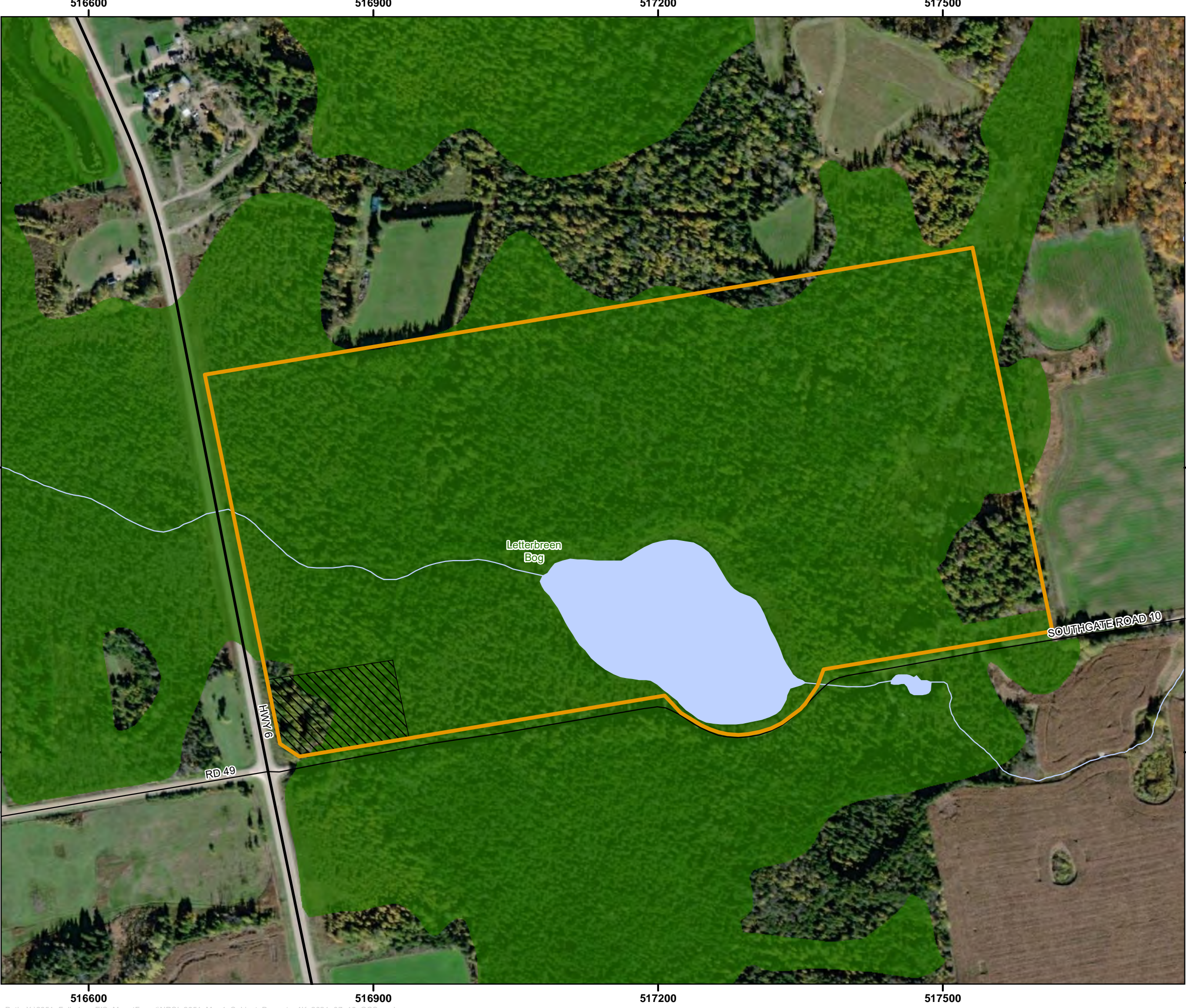
Saugeen Valley Conservation Authority. 2013. O. Reg. 169/06: Saugeen Valley Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

Saugeen Valley Conservation Authority. 2018. Environmental Planning and Regulations Policies Manual. May 16, 2017, Amended October 16, 2018.

Township of Southgate. 2009. Township of Southgate. The amalgamated Townships of Proton and Egremont and the Village of Dundalk Official Plan.

Township of Southgate. 2020. Zoning By-law 19-2002. As amended. Office Consolidation June 2020.





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Map 1

Falladown Severance EIS

Subject Property

Legend

Subject Property Boundary

Proposed Severance

Highway

Secondary Road

Permanent Watercourse

Water Body

Provincially Significant Wetland (PSW)

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Aquatic, Terrestrial and Wetland Biologists

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Date: July 16, 2021

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Metres

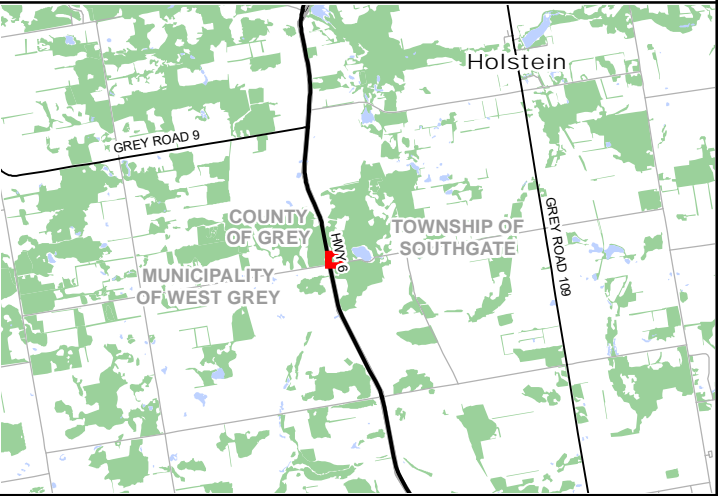




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# Falladown Severance EIS

## Existing Conditions - Proposed Lot

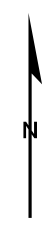
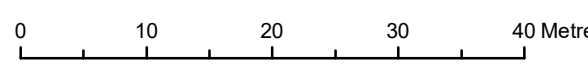


- Legend**
- Subject Property Boundary
  - Proposed Severance
  - Wetland Boundary
  - Wetland Boundary Buffer (15 m)
  - Ecological Land Classification (ELC)
    - (CUM1) Old Field Cultural Meadow
    - (FOC4-1) Fresh-Moist White Cedar Coniferous Forest
    - (SWC4-2) Tamarack Organic Coniferous Swamp Type



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Project: 2651 Date: September 23, 2021	NAD83 - UTM Zone 17 Size: 11x17" 1:600
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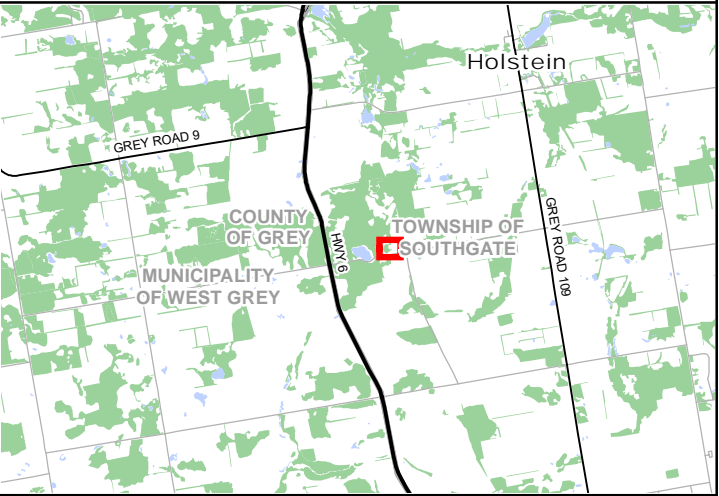




Map 3

# Falladown Severance EIS

## Existing Conditions - Retained Lands



- Legend**
- Subject Property Boundary
  - Wetland Boundary
  - Wetland Boundary Buffer (15 m)
  - Ecological Land Classification (ELC)
    - (CUM1) Old Field Cultural Meadow
    - (FOC4-1) Fresh - Moist White Cedar Coniferous Forest Type
    - (H) Hedgerow
    - (SWC4-2) Tamarack Organic Coniferous Swamp

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Project: 2651 Date: September 23, 2021	NAD83 - UTM Zone 17 Size: 11x17" 1:900
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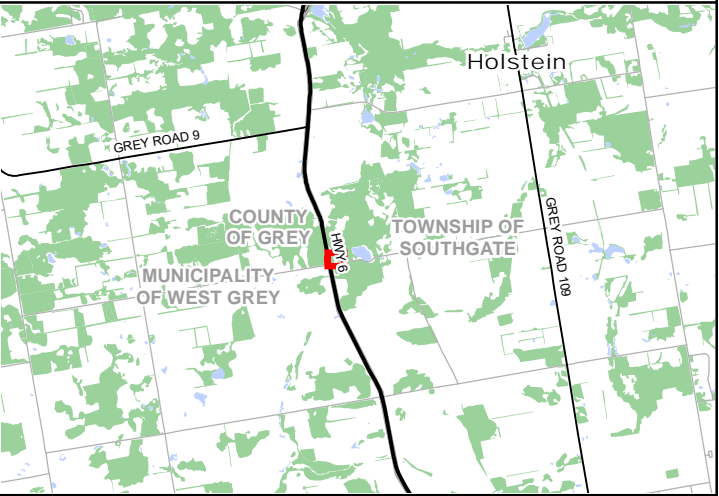
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# Falladown Severance EIS Proposed Development



- Legend**
- Subject Property Boundary
  - Proposed Severance
  - Proposed Building
  - Wetland Boundary
  - Wetland Boundary Buffer (15 m)
  - Ecological Land Classification (ELC)
    - (CUM1) Old Field Cultural Meadow
    - (FOC4-1) Fresh-Moist White Cedar Coniferous Forest
    - (SWC4-2) Tamarack Organic Coniferous Swamp Type



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Project: 2651 Date: October 7, 2021	NAD83 - UTM Zone 17 Size: 11x17" 1:700
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Map 5

Falladown Severance EIS

Proposed Development

GREY ROAD 9  
GREY ROAD 108  
HIGHWAY 6  
HOLSTEIN  
TOWNSHIP OF SOUTHGATE  
MUNICIPALITY OF WEST GREY  
COUNTY OF GREY

Legend

Subject Property Boundary

Proposed Building

Wetland Boundary

Wetland Boundary Buffer (15 m)

Ecological Land Classification (ELC)

(CUM1) Old Field Cultural Meadow

(FOC4-1) Fresh - Moist White Cedar Coniferous Forest Type

(H) Hedgerow

(SWC4-2) Tamarack Organic Coniferous Swamp

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Aquatic, Terrestrial and Wetland Biologists

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Project: 2651  
Date: October 8, 2021

NAD83 - UTM Zone 17  
Size: 11x17"  
1:900

0204060 Metres



Scientific Name	Common Name	CC	CW	SRANK	SARO	COSEWIC	SARA	SARA Schedule	Grey County	iNaturalist	NRSI 2007	NRSI Total Observed	NRSI 2021 Upland	NRSI 2021 Wetland
		Oldham et al. 1998	Oldham et al. 1998	MNRF 2020a	MNRF 2020a	ernment of Canada	ernment of Canada	ernment of Canada	OSFN 2010	iNaturalist 2021				
Pteridophytes	Ferns & Allies													
Dennstaedtiaceae	Bracken Fern Family													
Pteridium aquilinum	Bracken Fern	2	3	S5								X	X	
Dryopteridaceae	Wood Fern Family													
Onoclea sensibilis	Sensitive Fern	4	-3	S5							X	X	X	X
Equisetaceae	Horsetail Family													
Equisetum hyemale	Common Scouring-rush	2	0	S5							X	X		
Equisetum pratense	Meadow Horsetail	8	-3	S5								X		X
Thelypteridaceae	Beech Fern Family													
Thelypteris palustris	Marsh Fern	5	-3	S5							X	X		
Gymnosperms	Conifers													
Cupressaceae	Cypress Family													
Thuja occidentalis	Eastern White Cedar	4	-3	S5							X	X	X	X
Pinaceae	Pine Family													
Abies balsamea	Balsam Fir	5	-3	S5							X	X	X	X
Larix laricina	Tamarack	7	-3	S5							X	X	X	X
Picea mariana	Black Spruce	8	-3	S5								X		X
Dicotyledons	Dicots													
Aceraceae	Maple Family													
Acer rubrum	Red Maple	4	0	S5							X	X		
Acer saccharinum	Silver Maple	5	-3	S5								X	X	X
Apiaceae	Carrot or Parsley Family													
Cicuta bulbifera	Bulb-bearing Water-hemlock	5	-5	S5						X		X		
Daucus carota	Wild Carrot	0	5	SE5							X	X	X	
Aquifoliaceae	Holly Family													
Ilex verticillata	Common Winterberry	5	-3	S5							X	X		
Asclepiadaceae	Milkweed Family													
Asclepias syriaca	Common Milkweed	0	5	S5							X	X	X	
Asteraceae	Composite or Aster Family													
Antennaria neglecta	Field Pussytoes	3	5	S5							X	X		
Arctium minus	Common Burdock	0	3	SE5							X	X		
Carduus acanthoides	Spiny Plumeless Thistle	0	5	SE5								X	X	
Cirsium vulgare	Bull Thistle	0	3	SE5							X	X		
Erigeron annuus	Annual Fleabane	0	3	S5								X	X	
Erigeron canadensis	Canada Horseweed	0	3	S5							X	X		
Erigeron philadelphicus	Philadelphia Fleabane	1	-3	S5						X				
Eupatorium perfoliatum	Common Boneset	2	-3	S5							X	X		
Eutrochium maculatum	Spotted Joe Pye Weed	3	-5	S5							X	X		X
Leucanthemum vulgare	Oxeye Daisy	0	5	SE5							X	X	X	
Onopordum acanthium ssp. acanthium	Scotch Thistle	0	5	SE4								X	X	
Rudbeckia hirta	Black-eyed Susan	0	3	S5								X	X	
Solidago canadensis	Canada Goldenrod	1	3	S5							X	X	X	
Solidago patula	Round-leaved Goldenrod	8	-5	S4							X	X		
Solidago uliginosa	Bog Goldenrod	9	-5	S5						X				
Taraxacum officinale	Common Dandelion	0	3	SE5							X	X	X	
Tragopogon pratensis	Meadow Goat's-beard	0	5	SE5							X	X		
Tussilago farfara	Colt's-foot	0	3	SE5										

<b>Cornaceae</b>	<b>Dogwood Family</b>											
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	6	3	S5						X	X	
<i>Cornus sericea</i>	Red-osier Dogwood	2	-3	S5					X	X	X	X
<b>Ericaceae</b>	<b>Heath Family</b>											
<i>Chamaedaphne calyculata</i>	Leatherleaf	9	-5	S5					X			
<i>Gaultheria procumbens</i>	Eastern Teaberry	6	3	S5					X			
<i>Kalmia polifolia</i>	Pale Bog Laurel	10	-5	S5					X			
<i>Rhododendron groenlandicum</i>	Common Labrador Tea	9	-5	S5					X			
<b>Fabaceae</b>	<b>Pea Family</b>											
<i>Vicia cracca</i>	Tufted Vetch	0	5	SE5							X	X
<b>Lamiaceae</b>	<b>Mint Family</b>											
<i>Clinopodium vulgare</i>	Field Basil	4	5	S5					X	X		
<i>Lycopus uniflorus</i>	Northern Water-horehound	5	-5	S5				X				
<i>Prunella vulgaris</i>	Self-heal	0	0	S5						X	X	
<b>Menyanthaceae</b>	<b>Buckbean Family</b>											
<i>Menyanthes trifoliata</i>	Bog Buckbean	9	-5	S5				X				
<b>Myricaceae</b>	<b>Wax-myrtle Family</b>											
<i>Myrica gale</i>	Sweet Gale	6	-5	S5					X	X		
<b>Nymphaeaceae</b>	<b>Water-ily Family</b>											
<i>Nuphar variegata</i>	Variegated Pond-ily	7	-5	S5				X				
<b>Onagraceae</b>	<b>Evening-primrose Family</b>											
<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	2	3	S5					X	X	X	
<b>Plantaginaceae</b>	<b>Plantain Family</b>											
<i>Plantago lanceolata</i>	English Plantain	0	3	SE5					X	X		
<b>Polygalaceae</b>	<b>Milkwort Family</b>											
<i>Polygaloides paucifolia</i>	Gay-wing Milkwort	6	3	S5				X				
<b>Primulaceae</b>	<b>Primrose Family</b>											
<i>Lysimachia borealis</i>	Northern Starflower	6	0	S5				X				
<b>Ranunculaceae</b>	<b>Buttercup Family</b>											
<i>Ranunculus acris</i>	Tall Buttercup	0	0	SE5					X	X	X	
<b>Rhamnaceae</b>	<b>Buckthorn Family</b>											
<i>Rhamnus cathartica</i>	Common Buckthorn	0	0	SE5						X	X	
<b>Rosaceae</b>	<b>Rose Family</b>											
<i>Comarum palustre</i>	Marsh Cinquefoil	7	-5	S5				X				
<i>Crataegus sp.</i>	Hawthorn sp.	0	0	0	0	0	0			X	X	
<i>Fragaria virginiana</i>	Wild Strawberry	2	3	S5					X	X		
<i>Potentilla recta</i>	Sulphur Cinquefoil	0	5	SE5						X	X	
<i>Prunus serotina</i>	Black Cherry	3	3	S5					X	X	X	
<i>Prunus virginiana</i>	Choke Cherry	2	3	S5						X	X	
<i>Rubus hispidus</i>	Bristly Dewberry	6	-3	S4					X	X		
<i>Rubus idaeus</i>	Common Red Raspberry	2	3	S5					X	X	X	X
<i>Rubus pubescens</i>	Dewberry	4	-3	S5					X	X		X
<i>Spiraea alba</i>	White Meadowsweet	3	-3	S5					X	X		X
<b>Rubiaceae</b>	<b>Madder Family</b>											
<i>Galium mollugo</i>	Smooth Bedstraw	0	5	SE5						X	X	
<b>Salicaceae</b>	<b>Willow Family</b>											
<i>Populus balsamifera</i>	Balsam Poplar	4	-3	S5					X	X	X	X
<i>Populus tremuloides</i>	Trembling Aspen	2	0	S5					X	X	X	
<i>Salix bebbiana</i>	Bebb's Willow	4	-3	S5					X	X		
<i>Salix discolor</i>	Pussy Willow	3	-3	S5					X	X		
<i>Salix eriocephala</i>	Heart-leaved Willow	4	-3	S5					X	X		X
<b>Scrophulariaceae</b>	<b>Figwort Family</b>											
<i>Veronica officinalis</i>	Common Speedwell	0	5	SE5					X	X		
<b>Solanaceae</b>	<b>Nightshade Family</b>											
<i>Solanum dulcamara</i>	Bittersweet Nightshade	0	0	SE5					X	X	X	X
<b>Ulmaceae</b>	<b>Elm Family</b>											
<i>Ulmus americana</i>	American Elm	3	-3	S5					X	X	X	X
<b>Valerianaceae</b>	<b>Valerian Family</b>											
<i>Valeriana officinalis</i>	Common Valerian	0	3	SE3						X	X	
<b>Violaceae</b>	<b>Violet Family</b>											
<i>Viola affinis</i>	LeConte's Violet	6	-3	S4?					X	X		
<b>Vitaceae</b>	<b>Grape Family</b>											
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	6	3	S4?					X	X		
<i>Vitis riparia</i>	Riverbank Grape	0	0	S5					X	X	X	
<b>Monocotyledons</b>	<b>Monocots</b>											
<b>Alismataceae</b>	<b>Water-plantain Family</b>											

<i>Alisma triviale</i>	Northern Water-plantain	1	-5	S5						X				
<b>Cyperaceae</b>	<b>Sedge Family</b>													
<i>Carex crinita</i>	Fringed Sedge	6	-5	S5						X				
<i>Carex flava</i>	Yellow Sedge	5	-5	S5						X		X	X	
<i>Carex gracillima</i>	Graceful Sedge	4	3	S5								X	X	
<i>Carex intumescens</i>	Bladder Sedge	6	-3	S5								X		X
<i>Carex pseudocyperus</i>	Cyperus-like Sedge	6	-5	S5						X				
<i>Carex stricta</i>	Tussock Sedge	4	-5	S5						X	X	X		X
<i>Scirpus atrovirens</i>	Dark-green Bulrush	3	-5	S5								X		X
<b>Iridaceae</b>	<b>Iris Family</b>													
<i>Iris versicolor</i>	Harlequin Blue Flag	5	-5	S5							X	X		
<b>Liliaceae</b>	<b>Lily Family</b>													
<i>Allium tricoccum</i>	Wild Leek	7	3	S4						X				
<b>Orchidaceae</b>	<b>Orchid Family</b>													
<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper	5	0	S5								X	X	
<i>Epipactis helleborine</i>	Eastern Helleborine	0	3	SE5							X	X	X	
<b>Poaceae</b>	<b>Grass Family</b>													
<i>Bromus inermis</i>	Smooth Brome	0	5	SE5								X	X	
<i>Phalaris arundinacea</i>	Reed Canary Grass	0	-3	S5							X	X		
<i>Phleum pratense</i>	Common Timothy	0	3	SE5							X	X	X	
<b>Typhaceae</b>	<b>Cattail Family</b>													
<i>Typha angustifolia</i>	Narrow-leaved Cattail	0	-5	SE5								X		X
<i>Typha latifolia</i>	Broad-leaved Cattail	1	-5	S5							X	X		
<b>Total</b>										<b>20</b>	<b>52</b>	<b>81</b>	<b>43</b>	<b>23</b>

\*NHIC Atlas Squares: Square #

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Bird Species Reported from the Study Area - Falladown EIS (Project #2651)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	NRSI 2007	NRSI 2021	OBBA*
		MNRF 2021a	MNRF 2021a	Government of Canada 2021	Government of Canada 2021	Government of Canada 2021			Cadman et al. 2007
<b>Anatidae</b>	<b>Ducks, Geese &amp; Swans</b>								
<i>Aix sponsa</i>	Wood Duck	S5B, S3N							CO
<i>Anas platyrhynchos</i>	Mallard	S5							CO
<i>Branta canadensis</i>	Canada Goose	S5							CO
<i>Lophodytes cucullatus</i>	Hooded Merganser	S5							PO
<b>Phasianidae</b>	<b>Partridges, Grouse &amp; Turkeys</b>								
<i>Bonasa umbellus</i>	Ruffed Grouse	S5							CO
<i>Meleagris gallopavo</i>	Wild Turkey	S5							PO
<b>Podicipediformes</b>	<b>Grebes</b>								
<i>Podilymbus podiceps</i>	Pied-billed Grebe	S4B, S2N							PO
<b>Columbidae</b>	<b>Pigeons &amp; Doves</b>								
<i>Columba livia</i>	Rock Pigeon	SNA							CO
<i>Zenaidura macroura</i>	Mourning Dove	S5					X	PO	CO
<b>Cuculiformes</b>	<b>Cuckoos &amp; Anis</b>								
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	S4B							PO
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	S4S5B							PO
<b>Trochilidae</b>	<b>Hummingbirds</b>								
<i>Archilochus colubris</i>	Ruby-throated Hummingbird	S5B							PR
<b>Rallidae</b>	<b>Rails, Gallinules &amp; Coots</b>								
<i>Rallus limicola</i>	Virginia Rail	S4S5B							PO
<b>Charadriidae</b>	<b>Plovers &amp; Lapwings</b>								
<i>Charadrius vociferus</i>	Killdeer	S4B							CO
<b>Scolopacidae</b>	<b>Sandpipers &amp; Allies</b>								
<i>Actitis macularia</i>	Spotted Sandpiper	S5B							PO
<i>Bartramia longicauda</i>	Upland Sandpiper	S2B							PR
<i>Scolopax minor</i>	American Woodcock	S4B							PO
<b>Ardeidae</b>	<b>Hérons &amp; Bitterns</b>								
<i>Ardea herodias</i>	Great Blue Heron	S4							PO
<i>Butorides virescens</i>	Green Heron	S4B						PO	PO
<b>Cathartidae</b>	<b>Vultures</b>								
<i>Cathartes aura</i>	Turkey Vulture	S5B, S3N							CO
<b>Pandionidae</b>	<b>Osprey</b>								
<i>Pandion haliaetus</i>	Osprey	S5B							PR
<b>Accipitridae</b>	<b>Hawks, Kites, Eagles &amp; Allies</b>								
<i>Buteo jamaicensis</i>	Red-tailed Hawk	S5	NAR	NAR	NS	No schedule	PO		CO
<i>Circus hudsonius</i>	Northern Harrier	S5B, S4N	NAR	NAR	NS	No schedule	PO		PR
<b>Strigidae</b>	<b>Typical Owls</b>								
<i>Bubo virginianus</i>	Great Horned Owl	S4							PO
<i>Megascops asio</i>	Eastern Screech-Owl	S4	NAR	NAR	NS	No schedule			PR
<b>Alcedinidae</b>	<b>Kingfishers</b>								
<i>Megaceryle alcyon</i>	Belted Kingfisher	S5B, S4N					X		CO
<b>Picidae</b>	<b>Woodpeckers</b>								
<i>Colaptes auratus</i>	Northern Flicker	S5						PO	CO
<i>Dryobates pubescens</i>	Downy Woodpecker	S5						PO	PO
<i>Dryobates villosus</i>	Hairy Woodpecker	S5							PO
<i>Dryocopus pileatus</i>	Pileated Woodpecker	S5						PO	CO
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	S5							PO
<b>Falconidae</b>	<b>Caracaras &amp; Falcons</b>								
<i>Falco sparverius</i>	American Kestrel	S4							CO
<b>Tyrannidae</b>	<b>Tyrant Flycatchers</b>								
<i>Contopus virens</i>	Eastern Wood-Pewee	S4B	SC	SC	SC	Schedule 1			PR
<i>Empidonax alnorum</i>	Alder Flycatcher	S5B							PR
<i>Empidonax minimus</i>	Least Flycatcher	S5B							PR
<i>Empidonax traillii</i>	Willow Flycatcher	S4B							PO



<i>Myiarchus cinerascens</i>	Ash-throated Flycatcher	SNA					PO		
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	S5B							PR
<i>Sayornis phoebe</i>	Eastern Phoebe	S5B							CO
<i>Tyrannus tyrannus</i>	Eastern Kingbird	S4B					PO	PO	CO
<b>Vireonidae</b>	<b>Vireos</b>								
<i>Vireo gilvus</i>	Warbling Vireo	S5B							CO
<i>Vireo olivaceus</i>	Red-eyed Vireo	S5B							CO
<b>Corvidae</b>	<b>Crows &amp; Jays</b>								
<i>Corvus brachyrhynchos</i>	American Crow	S5					PO		CO
<i>Corvus corax</i>	Common Raven	S5							PR
<i>Cyanocitta cristata</i>	Blue Jay	S5					PO	PO	CO
<b>Alaudidae</b>	<b>Larks</b>								
<i>Eremophila alpestris</i>	Horned Lark	S4							CO
<b>Hirundinidae</b>	<b>Swallows</b>								
<i>Hirundo rustica</i>	Barn Swallow	S4B	THR	SC	T	Schedule 1	PO		CO
<i>Riparia riparia</i>	Bank Swallow	S4B	THR	T	T	Schedule 1			CO
<i>Tachycineta bicolor</i>	Tree Swallow	S4S5B							CO
<b>Paridae</b>	<b>Chickadees &amp; Titmice</b>								
<i>Poecile atricapillus</i>	Black-capped Chickadee	S5						PO	CO
<b>Sittidae</b>	<b>Nuthatches</b>								
<i>Sitta canadensis</i>	Red-breasted Nuthatch	S5					PO	PO	PO
<i>Sitta carolinensis</i>	White-breasted Nuthatch	S5					PO	PO	CO
<b>Certhiidae</b>	<b>Creepers</b>								
<i>Certhia americana</i>	Brown Creeper	S5							CO
<b>Troglodytidae</b>	<b>Wrens</b>								
<i>Troglodytes aedon</i>	House Wren	S5B					X		CO
<i>Troglodytes hiemalis</i>	Winter Wren	S5B, S4N							CO
<b>Turdidae</b>	<b>Thrushes</b>								
<i>Catharus fuscescens</i>	Veery	S5B							PR
<i>Hylocichla mustelina</i>	Wood Thrush	S4B	SC	T	T	Schedule 1			PR
<i>Sialia sialis</i>	Eastern Bluebird	S5B, S4N	NAR	NAR	NS	No schedule			CO
<i>Turdus migratorius</i>	American Robin	S5					PO	PO	CO
<b>Mimidae</b>	<b>Mockingbirds, Thrashers &amp; Allies</b>								
<i>Dumetella carolinensis</i>	Gray Catbird	S5B, S3N					PO	PO	CO
<i>Toxostoma rufum</i>	Brown Thrasher	S4B							CO
<b>Sturnidae</b>	<b>Starlings</b>								
<i>Sturnus vulgaris</i>	European Starling	SNA							CO
<b>Bombycillidae</b>	<b>Waxwings</b>								
<i>Bombycilla cedrorum</i>	Cedar Waxwing	S5						PO	CO
<b>Passeridae</b>	<b>Old World Sparrows</b>								
<i>Passer domesticus</i>	House Sparrow	SNA							CO
<b>Fringillidae</b>	<b>Finches &amp; Allies</b>								
<i>Haemorhous mexicanus</i>	House Finch	SNA							CO
<i>Haemorhous purpureus</i>	Purple Finch	S5							PR
<i>Spinus tristis</i>	American Goldfinch	S5					PO	PO	PR
<b>Emberizidae</b>	<b>New World Sparrows &amp; Allies</b>								
<i>Melospiza georgiana</i>	Swamp Sparrow	S5B, S4N					PO	PO	PR
<i>Melospiza melodia</i>	Song Sparrow	S5					PR		PR
<i>Passerculus sandwichensis</i>	Savannah Sparrow	S5B, S3N					PO		PR
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	S4B, S3N							PR
<i>Spizella passerina</i>	Chipping Sparrow	S5B, S3N					PO		CO
<i>Spizella pusilla</i>	Field Sparrow	S4B, S3N							PR
<i>Zonotrichia albicollis</i>	White-throated Sparrow	S5					PO	PO	CO
<b>Icteridae</b>	<b>Troupials &amp; Allies</b>								
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	S5					PO	PO	CO
<i>Dolichonyx oryzivorus</i>	Bobolink	S4B	THR	T	T	Schedule 1			PR
<i>Icterus galbula</i>	Baltimore Oriole	S4B							CO
<i>Molothrus ater</i>	Brown-headed Cowbird	S5					PO		CO
<i>Quiscalus quiscula</i>	Common Grackle	S5							CO
<i>Sturnella magna</i>	Eastern Meadowlark	S4B, S3N	THR	T	T	Schedule 1	PO		CO

<b>Parulidae</b>	<b>Wood Warblers</b>								
<i>Geothlypis philadelphia</i>	Mourning Warbler	S5B							PR
<i>Geothlypis trichas</i>	Common Yellowthroat	S5B, S3N					CO	PO	CO
<i>Leiothlypis ruficapilla</i>	Nashville Warbler	S5B							PR
<i>Mniotilta varia</i>	Black-and-white Warbler	S5B						PO	PR
<i>Parkesia noveboracensis</i>	Northern Waterthrush	S5B							PO
<i>Seiurus aurocapilla</i>	Ovenbird	S5B							PR
<i>Setophaga coronata</i>	Yellow-rumped Warbler	S5B, S4N					PO		PR
<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler	S5B							PO
<i>Setophaga petechia</i>	Yellow Warbler	S5B					PO		CO
<i>Setophaga ruticilla</i>	American Redstart	S5B							CO
<i>Setophaga virens</i>	Black-throated Green Warbler	S5B							PR
<b>Cardinalidae</b>	<b>Cardinals, Grosbeaks &amp; Allies</b>								
<i>Cardinalis cardinalis</i>	Northern Cardinal	S5					PO	PO	CO
<i>Passerina cyanea</i>	Indigo Bunting	S5B					PO	PO	CO
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	S5B							CO
<i>Piranga olivacea</i>	Scarlet Tanager	S5B							PR
<b>Total</b>							<b>28</b>	<b>21</b>	<b>94</b>

\*OBBA Atlas Squares: Square # 17NJ17

\*\*No NHIC Atlas data

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Government of Canada. 2021. Species at Risk Public Registry: Species Search. COSEWIC Last Assessment Date: 2021-05-05. Available: <https://species-registry.canada.ca/index-en.html#/species?sortBy=commonNameSort&sortDirection=asc&pageSize=10>

Mammal Species Reported from the Study Area - Falladown EIS (Project #2651)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	Ontario Mammal Atlas	NRSI Observed
		MNRF 2021a	MNRF 2021a	Government of Canada 2021	Government of Canada 2021	Government of Canada 2021	Dobbyn 1994	NRSI Results from 2021
<b>Didelphimorphia</b>	<b>Opossums</b>							
<i>Didelphis virginiana</i>	Virginia Opossum	S4					X	
<b>Eulipotyphla</b>	<b>Shrews, Moles, Hedgehogs, and Allies</b>							
<i>Blarina brevicauda</i>	Northern Short-tailed Shrew	S5					X	
<i>Condylura cristata</i>	Star-nosed Mole	S5					X	
<i>Parascalops breweri</i>	Hairy-tailed Mole	S4					X	
<i>Sorex cinereus</i>	Masked Shrew	S5					X	
<i>Sorex fumeus</i>	Smoky Shrew	S5					X	
<i>Sorex palustris</i>	Water Shrew	S5					X	
<b>Chiroptera</b>	<b>Bats</b>							
<i>Eptesicus fuscus</i>	Big Brown Bat	S4					X	
<i>Lasionycteris noctivagans</i>	Silver-haired Bat	S4					X	
<i>Lasiurus borealis</i>	Eastern Red Bat	S4					X	
<i>Lasiurus cinereus</i>	Hoary Bat	S4					X	
<i>Myotis leibii</i>	Eastern Small-footed Myotis	S2S3	END				X	
<i>Myotis lucifugus</i>	Little Brown Myotis	S3	END	E	E	Schedule 1	X	
<i>Myotis septentrionalis</i>	Northern Myotis	S3	END	E	E	Schedule 1	X	
<i>Perimyotis subflavus</i>	Tri-colored Bat	S3?	END	E	E	Schedule 1	X	
<b>Lagomorpha</b>	<b>Rabbits and Hares</b>							
<i>Lepus americanus</i>	Snowshoe Hare	S5					X	
<i>Lepus europaeus</i>	European Hare	SNA					X	
<i>Sylvilagus floridanus</i>	Eastern Cottontail	S5					X	
<b>Rodentia</b>	<b>Rodents</b>							
<i>Castor canadensis</i>	Beaver	S5					X	
<i>Erethizon dorsatum</i>	Porcupine	S5					X	
<i>Glaucomys sabrinus</i>	Northern Flying Squirrel	S5					X	
<i>Marmota monax</i>	Woodchuck	S5					X	
<i>Microtus pennsylvanicus</i>	Meadow Vole	S5					X	
<i>Microtus pinetorum</i>	Woodland Vole	S3?	SC	SC	SC	Schedule 1	X	
<i>Mus musculus</i>	House Mouse	SNA					X	
<i>Napaeozapus insignis</i>	Woodland Jumping Mouse	S5					X	
<i>Ondatra zibethicus</i>	Muskrat	S5					X	
<i>Peromyscus leucopus</i>	White-footed Mouse	S5					X	
<i>Peromyscus maniculatus</i>	Deer Mouse	S5					X	
<i>Rattus norvegicus</i>	Norway Rat	SNA					X	
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	S5					X	
<i>Synaptomys cooperi</i>	Southern Bog Lemming	S4					X	
<i>Tamias striatus</i>	Eastern Chipmunk	S5					X	X
<i>Tamiasciurus hudsonicus</i>	Red Squirrel	S5					X	X
<i>Zapus hudsonius</i>	Meadow Jumping Mouse	S5					X	
<b>Canidae</b>	<b>Canines</b>							
<i>Canis latrans</i>	Coyote	S5					X	
<i>Vulpes vulpes</i>	Red Fox	S5					X	
<b>Felidae</b>	<b>Felines</b>							
<i>Lynx rufus</i>	Bobcat	S4					X	
<b>Mephitidae</b>	<b>Skunks and Stink Badgers</b>							
<i>Mephitis mephitis</i>	Striped Skunk	S5					X	
<b>Mustelidae</b>	<b>Weasels and Allies</b>							
<i>Mustela erminea</i>	Ermine	S5					X	
<i>Mustela frenata</i>	Long-tailed Weasel	S4					X	
<i>Neovison vison</i>	American Mink	S4					X	
<i>Taxidea taxus jacksoni</i>	American Badger (Southwestern Ontario)	S1	END	E	E	Schedule 1	X	
<b>Procyonidae</b>	<b>Raccoons and Allies</b>							
<i>Procyon lotor</i>	Northern Raccoon	S5					X	X
<b>Ursidae</b>	<b>Bears</b>							
<i>Ursus americanus</i>	American Black Bear	S5	NAR	NAR	NS	No schedule	X	
<b>Artiodactyla</b>	<b>Deer and Bison</b>							
<i>Odocoileus virginianus</i>	White-tailed Deer	S5					X	X
<b>Total</b>							<b>46</b>	<b>4</b>

\*Mammal Atlas Square Numbers: Square #NU

\*\*No NHIC Atlas data found

**References**

Ministry of Natural Resources and Forestry (MNRF). 2021a. Natural Heritage Information Centre (NHIC): Species List for Ontario. Published: 2014-07-17. All Species List Updated: 2021-03-18. Available: <https://www.ontario.ca/page/get-natural-heritage-information>  
Government of Canada. 2021. Species at Risk Public Registry: Species Search. COSEWIC Last Assessment Date: 2021-05-05. Available: <https://species-registry.canada.ca/index-en.html#/species?sortBy=commonNameSort&sortDirection=asc&pageSize=10>  
Dobbyn, J.S. 1994. Atlas of the Mammals of Ontario. Don Mills, Federation of Ontario Naturalists. 120p.

Reptile and Amphibian Species Reported from the Study Area - Falladown EIS (Project #2651)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	NRSI 2007	ORAA*
		MNRF 2021a	MNRF 2021a	Government of Canada 2021	Government of Canada 2021	Government of Canada 2021		Ontario Nature 2019
<b>Turtles</b>								
<i>Chelydra serpentina</i>	Snapping Turtle	S4	SC	SC	SC	Schedule 1		X
<i>Chrysemys picta marginata</i>	Midland Painted Turtle	S4		SC	SC	Schedule 1	X	X
<b>Snakes</b>								
<i>Thamnophis sirtalis sirtalis</i>	Eastern Gartersnake	S5						X
<b>Salamanders</b>								
<i>Plethodon cinereus</i>	Eastern Red-backed Salamander	S5						X
<b>Frogs and Toads</b>								
<i>Anaxyrus americanus</i>	American Toad	S5						X
<i>Hyla versicolor</i>	Gray Treefrog	S5						X
<i>Pseudacris crucifer</i>	Spring Peeper	S5						X
<i>Lithobates catesbeianus</i>	American Bullfrog	S4						X
<i>Lithobates clamitans</i>	Green Frog	S5					X	X
<i>Lithobates palustris</i>	Pickereel Frog	S4	NAR	NAR	NS	No schedule		X
<i>Lithobates pipiens</i>	Northern Leopard Frog	S5	NAR	NAR	NS	No schedule	X	X
<i>Lithobates sylvaticus</i>	Wood Frog	S5						X
<b>Total</b>							3	12

\*ORAA Atlas Squares: Square #17NJ17

\*\*No NHIC Atlas data

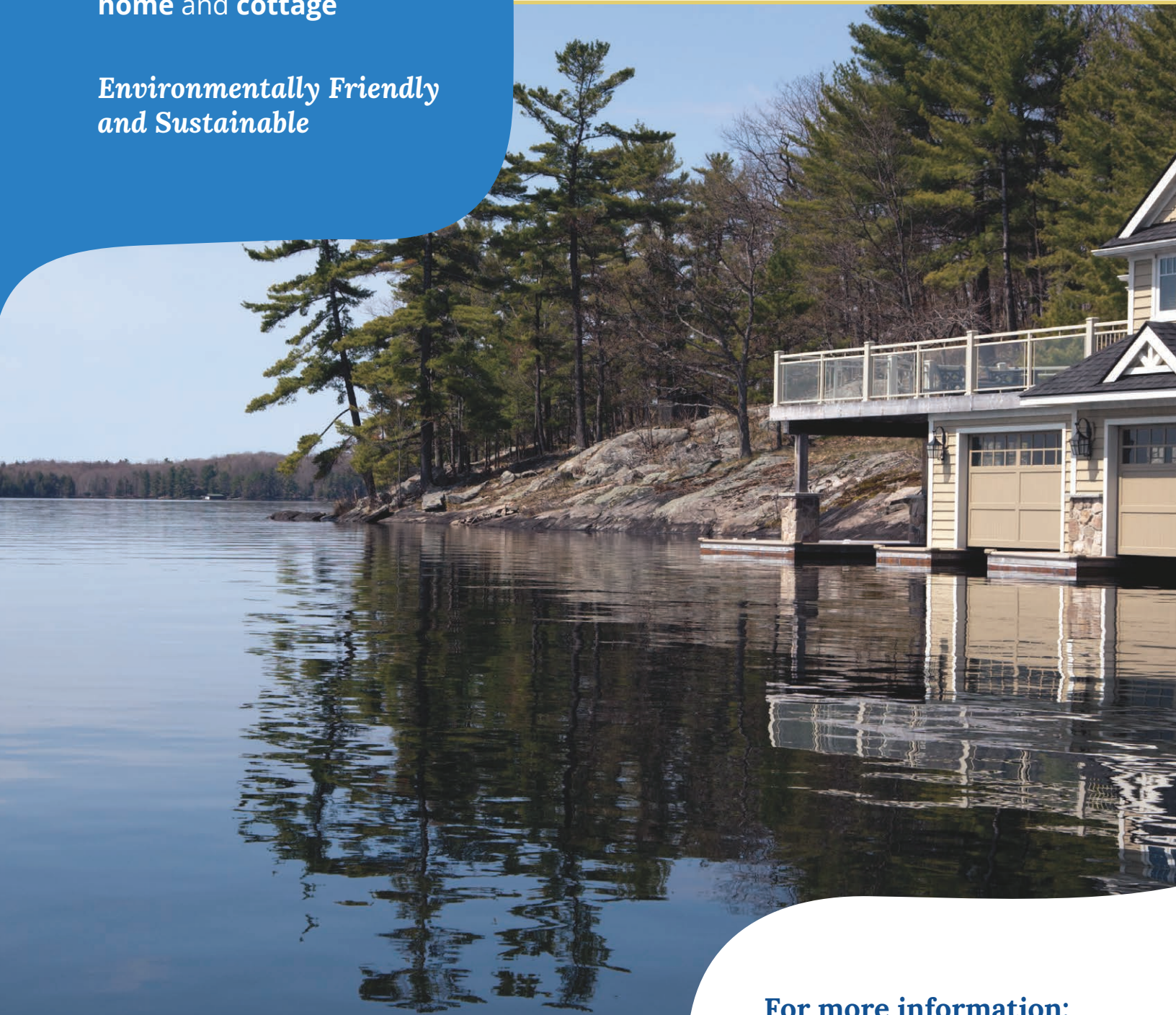
**References**

Ministry of Natural Resources and Forestry (MNRF). 2021a. Natural Heritage Information Centre (NHIC): Species List for Ontario. Published: 2014-07-17. All Species List Updated: 2021-03-18. Available: <https://www.ontario.ca/page/get-natural-heritage-information>  
Government of Canada. 2021. Species at Risk Public Registry: Species Search. COSEWIC Last Assessment Date: 2021-05-05. Available: <https://species-registry.canada.ca/index-en.html#/species?sortBy=commonNameSort&sortDirection=asc&pageSize=10>

# Advanced Septic Systems

The ideal solution for your  
**home** and **cottage**

*Environmentally Friendly  
and Sustainable*



**For more information:**

**[www.waterloo-biofilter.com](http://www.waterloo-biofilter.com)**

**1-866-366-4329**

**[info@waterloo-biofilter.com](mailto:info@waterloo-biofilter.com)**



# The Waterloo Advantage

**Waterloo Biofilter Systems Inc.** is a Canadian-owned and operated company that has for over 20 years developed, designed, manufactured, and maintained advanced onsite wastewater treatment systems.

We are committed to helping protect the environment with technology focused on high quality treatment, low energy usage, and system robustness.



UNIVERSITY OF  
**WATERLOO**

The patented Waterloo Biofilter system was developed at the University of Waterloo's Centre for Groundwater Research.



## Permanent Filter Medium

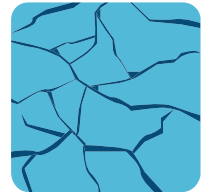
The key to the Waterloo Biofilter system is the absorbent foam filter medium that has been optimized to physically filter and biologically treat sewage. This filter medium is warranted for 20 years and will likely last generations.



**A Waterloo is designed to perform on difficult sites**



Small or Remote Lots



Bedrock or Clay Soils



High Watertable



Environmentally Sensitive Areas

*The environmentally friendly choice*

### Step 1

Wastewater is collected and distributed over the Waterloo foam filter medium.



### Step 2

Wastewater slowly trickles down through the foam pieces where natural occurring bacteria remove contaminants.



### Step 3

After passing through the foam, the treated water is put back into the environment.







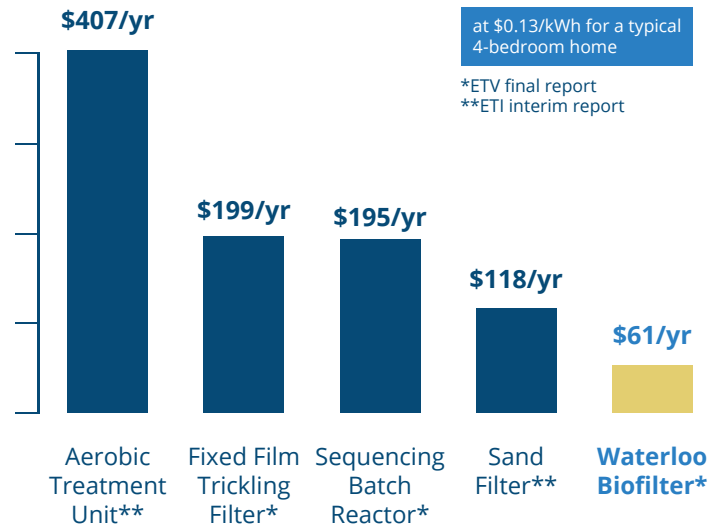
## Low Energy, Low Operating Cost

Waterloo Biofilters use very little energy; up to **85% less** power than aeration technologies using air compressors. In the long-term we have the lowest operating costs.

*Few moving parts*

*Less energy use*

*No noisy air compressor*



## Nitrogen Removal

Standard Waterloo systems remove up to **50-65% total nitrogen**, helping to reduce nitrate levels in groundwater and protect surface waters. With the **WaterNOx-LS™** system add-on, up to **95% TN removal** can be achieved passively and cost-effectively.



## Phosphorous Removal

With the **Waterloo EC-P™** system add-on, greater than **95% total phosphorus** can be removed – helping protect surface waters from blue-green algae and lake eutrophication. Compact and low energy, the Waterloo EC-P™ permanently removes phosphorus without chemicals or additional sludge production.



## Small Footprint

A Waterloo is discrete and minimizes raised mounding and tree removal. A variety of product configurations are available to suit your unique site conditions and personal tastes.



## Seasonal Performance

Whether for seasonal or year-round use, the Waterloo is designed to withstand extreme cold temperatures and can easily handle variable flow rates.



**Made in Canada**  
**Tough Enough for Canada**

# Residential Products



**Waterloo Shed Biofilters** are spray foam insulated for winter operation, clad in attractive composite siding, and roofed with 50-year shingles. Shed Biofilters are compact and require only a single pump to operate.



**Waterloo Flat Bed Biofilters** are constructed of strong yet lightweight fibreglass shells. Flat Bed Biofilters easily blend in with landscaping and require only a single pump to operate.



**Waterloo Basket Biofilters** are constructed of a rigid steel mesh coated for corrosion protection. Basket Biofilters are placed in a below-ground concrete tank and are ideal for larger homes or increased nitrogen removal.



**Waterloo HDPE Tank Biofilters** are constructed using very durable below-ground high-density polyethylene tanks. HDPE Tank Biofilters are ideal for difficult access sites and increased nitrogen removal.

## Proved and Approved

The Waterloo Biofilter has been thoroughly tested and proven effective by numerous 3<sup>rd</sup> party verification programs. We pride ourselves on the high treatment levels our technology consistently demonstrates.

## Is yours a Waterloo?

### CAN/BNQ Certification

	Median Concentration	Percent Removal
cBOD <sub>5</sub>	4 mg/L	98%
TSS	4 mg/L	> 98%
Fecal Coliforms	17,900 cfu/100mL	> 99%

### ETV Verification

	Median Concentration	Percent Removal
cBOD <sub>5</sub>	7 mg/L	96%
TSS	5 mg/L	97%
Total Nitrogen	13 mg/L	65%



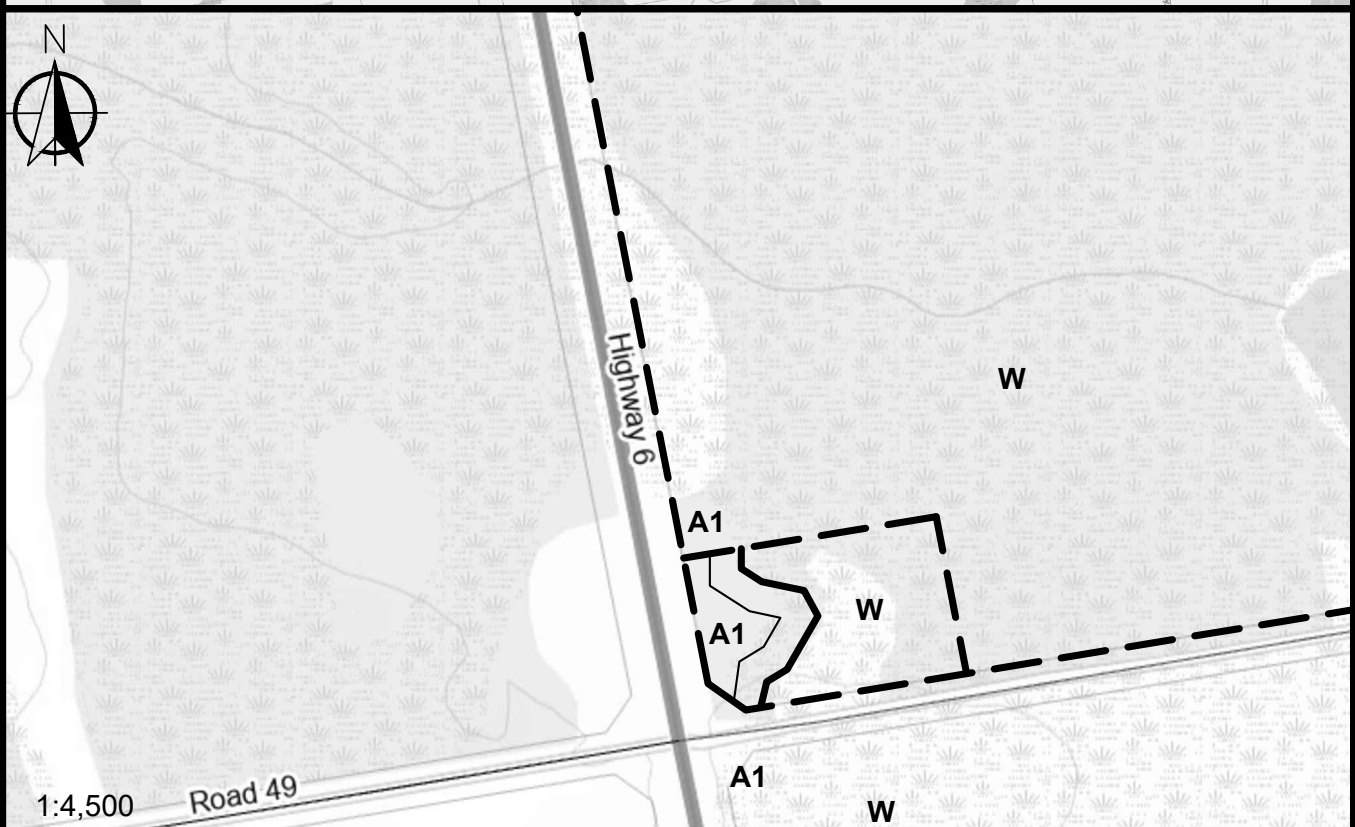
## Appendix 4

Proposed Zoning By-Law Amendment Schedule

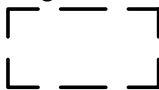
Schedule "A"  
By-Law No. \_\_\_\_\_  
Amending By-Law No. \_\_\_\_\_  
Township of Southgate  
(Geographic Township of Egremont)

Date Passed: \_\_\_\_\_

Signed: \_\_\_\_\_



Legend

 Lands subject to amendment

 Agricultural

 Wetland

 Wetland Boundary  15 metre setback to Wetland Boundary