



March 25, 2022
Our File: 221051

Via Email – ken@hutten.ca

Ken Hutten
177602 Grey County Road 18
Owen Sound, ON N4K 5N5

RE: Letter of Opinion
GCOP Bedrock Resource Area Viability
Part Lot 16, Concession 5, Derby
Township of Georgian Bluffs

Dear Ken,

This correspondence is provided as a letter of professional opinion regarding the location of your property on an area of Paleozoic bedrock covered by soil with a thickness of 1 to 8 metres, as noted in Appendix E of the Grey County Official Plan (June 7, 2021), which identifies potential bedrock and shale resources within Grey County. Section 5.6.6 (2) of the Grey County Official Plan indicates that “...*development and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if the resource use would not be feasible...*”.

Based on a review of geological mapping and area well records, it is our understanding that the near-surface geologic features underlying your property consist of dolostone bedrock of the Amabel formation. Based on the above review of the area well records, as well as observations made during the testhole investigation on the Site as part of the previously conducted Karst Topography investigation, the general depth to the bedrock on, and in the vicinity of the property ranges from 1.9 to 4.8 metres below ground surface (mbgs). However, a small outcrop was observed in the northeastern portion of the Site adjacent to Grey Road 18.

Although there is potential in some instances for the extraction of dolostone bedrock for use as either dimension stone or for crushing to produce aggregate resources, the quality of these resources is considerably poor for widespread applications and the cost of such an operation is often too high to justify. Overall, this subject property is not considered to be feasible for the extraction of these resources, as discussed below.

Shallow Groundwater Elevation

Upon reviewing available information, aerial imagery of the Site, and Site reconnaissance completed as part of the Karst Topography Assessment, it can be reasonably assumed that the depth of groundwater within and around the property is relatively shallow. Although no significant groundwater was found to infiltrate into the testholes at the time of the previously completed testhole investigation, a significant wetland complex, known as the Pottawatomi Wetlands Management Area, is present on the central and western portions of the Site. Additionally, an observed seasonal groundwater seep was observed approximately 170 metres west of the eastern property boundary and Grey Road 18, which is inferred to be associated with active karst features west of the proposed area of development.

The Pottawatomi River is situated 170 metres north of the Site at its closest point, which is reported to be situated at an elevation (i.e. approximately 234m) of less than 5 metres below the higher, eastern portion of the Site (i.e. approximately 239 masl).

Overall, it is assumed that the water table elevation across the Site would be either above, or just below the surface of the bedrock, depending on the elevation of the local bedrock surface. Under the Aggregate Resources Act (ARA), operations within 2.0 m of the seasonal “high” water table are considered to be below water extraction. Should extraction be proposed on this Site, it is assumed that significant dewatering would be required.

Overall, both the shallow groundwater on the Site and proximity to a significant wetland complex is expected to act as a significant barrier to a viable bedrock extraction operation. The approval of extraction of below water operations is considered to be a significant undertaking and only viable with valuable resource and relatively large volumes.

Grey-Sauble Conservation Authority (GSCA) Wetland, Regulated Area, and Property Setbacks

A review of the GSCA regulated areas and NEP land use designations indicate that various areas of the Site are regulated to ensure environmental protections and considerations are in place to eliminate developments that may adversely affect ecologic and historic areas of interest, the quality and character of natural streams and wetlands, and the protected natural scenery in the area.

The majority of the property (i.e. from approximately 230 metres west of Grey Road 1 to the western property boundary (i.e. approximately 1.3 kilometres west of Grey Road 18) is designated GSCA wetland or are regulated under Ontario Regulation 151/06 (i.e. within a 30-metre buffer zone of the designated wetland). No development of any kind is typically permitted within the designated wetland and under the regulation, development may not proceed if the control of flooding, erosion, pollution, or conservation of the land will be affected as a result.

Further, the property has a north-to-south width of only approximately 150 metres, which when operations setbacks are applied to property boundaries and required operating areas, would leave insufficient viable area for extraction.

Beyond the difficulty with extraction below the water table, when the setbacks from the regulated area and property boundaries are accounted for, the resulting developable area of the property for bedrock extraction is virtually eliminated.

Summary

The property is not considered viable for extraction of bedrock resources from an environmental protection, logistical, or economic perspective based on the following:

- The type of bedrock resource at the subject property is considered to be of limited value for extraction.
- The shallow groundwater elevation (i.e., expected to be within 1 to 2 metres of the bedrock surface) further reduces the viability for extraction
- The majority of the Site consists of a GSCA regulated wetland and its associated regulated setbacks (i.e. O. Reg 151/06), limiting the potential extraction area,
- When the expected extraction setbacks from property boundaries are applied to the Site, virtually no area remains that would be suitable for extraction.

Yours truly,

GM BLUEPLAN ENGINEERING LIMITED

Per:

A handwritten signature in blue ink, appearing to read 'Corbin Sweet'.

Corbin Sweet, H.B.Sc., P.Geo

Enclosures:

Site Plans

Grey County Official Plan Excerpts

GSCA Wetlands and Regulated Area Map

- 15) Existing licensed mineral aggregate extraction operations are permitted and shall be recognized in local zoning by-laws. Licensed mineral aggregate extraction operations are identified on Schedule B of this Plan as Mineral Resource Extraction.

5.6.6 Bedrock Resource Areas and Shale Resource Areas

- 1) The *County*, with the help of the *Province*, member municipalities, and stakeholders undertook a *significant* process through the Aggregate Resources Inventory Master Plan (2004), to identify *Aggregate resource areas*, which are mapped on Schedule B. This Master Plan not only looked at where primary and secondary aggregate resources are located, but also where those resource areas are constrained by environmental, or other land use features (e.g. *settlement areas*). The Plan then recommended certain resource areas for protection, such that they would be available for future extraction. A similar *County*-wide mapping exercise has not yet been undertaken for Bedrock and Shale Resource Areas.
- 2) The *Province* has provided mapping for Bedrock and Shale Resource Areas, within 8 metres of the surface, which have been mapped on Appendix E. This mapping is shown for two purposes;
 - a. To identify where these resources exist, and where resource use or extraction could reasonably be predicted in the future, and
 - b. To guide strategic land use decisions where future *development* may pose land use incompatibilities with these resources.

Within Bedrock and Shale Resource Areas shown on Appendix E and on *adjacent lands*, *development* and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if the resource use would not be feasible; or the proposed land use or *development* serves a greater long-term public interest; and issues of public health, public safety and environmental impact are addressed.

- 3) The *County* has not analysed constraints to these resource areas in detail. However, the mapping on Appendix E has excluded Bedrock or Shale Resource Areas within the Niagara Escarpment Plan Area, within designated *settlement areas* as mapped on Schedule A to the *County* Plan, and within *Core Areas* mapped on Schedule C.
- 4) The *County* may initiate an official plan amendment, which could include undertaking a study of Bedrock and/or Shale Resource Areas, to;
 - a. Consult with the public, agencies, and other community stakeholders,

- b. Determine constraints to these resources,
- c. Refine the mapping of the primary resources needed for protection, and
- d. Recommend policies of protection and utilization of the resources to be implemented as part of the *County* Official Plan.

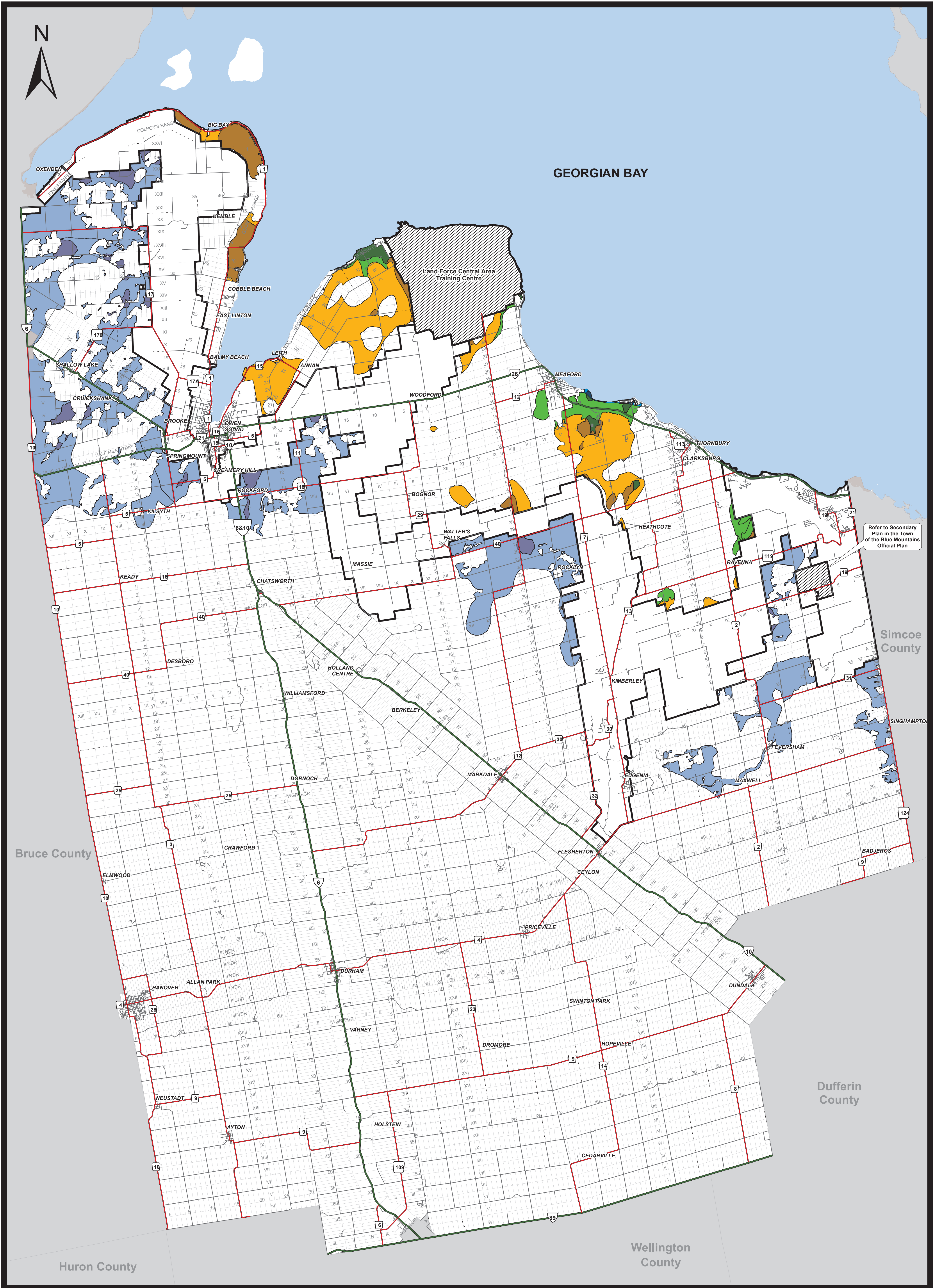
5.7 Space Extensive Industrial and Commercial

5.7.1 Background

The Space Extensive Industrial and Commercial *land use type*, as shown on Schedule A of this Plan, applies to those areas previously designated and approved for such *development*. Future expansion of this *land use type* will require an Official Plan amendment, and shall satisfy the criteria of this Plan.

5.7.2 Permitted Uses

- 1) Permitted uses include the following, in addition to uses that would generally satisfy the criteria established in 5.7.2(2):
 - a) Fuel distribution
 - b) Agricultural bulk sales establishment
 - c) Warehousing
 - d) Transport terminal
 - e) Dry manufacturing plant, including assembly, repair and storage
 - f) Equipment sales and rental
 - g) Farm machinery sales and service
 - h) Agricultural produce or *livestock* terminal
 - i) Feed mill or grain elevator
 - j) Sawmill
 - k) Horticultural nurseries
 - l) Automobile sales and services
 - m) Recreational vehicle sales and services
- 2) In addition to the uses permitted in 5.7.2(1), new uses would be permitted subject to satisfying all of the following criteria:
 - a) The use requires accessible sites to serve their market area;
 - b) The use serves demands from highway traffic;
 - c) The use requires a large parking or outdoor storage area or require a large volume single purpose building;
 - d) The location of the proposed use in a general industrial block or general retail block in an urban centre is not feasible due to its storage area or building volume requirements;



THE COUNTY OF GREY
OFFICIAL PLAN

APPENDIX E Bedrock and Shale Resources

LEGEND

- Provincial Highway
- County Road
- Local Road
- Seasonal Road

Selected Bedrock Resource Areas

Drift Thickness

- Paleozoic bedrock outcrop; areas of exposed bedrock partially covered by a thin veneer of drift. Drift Thickness is generally less than 1 m.
- Paleozoic bedrock covered by drift. Drift Thickness is generally 1 to 8 m. Bedrock outcrops may occur.

Jagger Hims Limited and Rowell, D.J. 2009.
Aggregate resources inventory of Grey County,
southern Ontario; Ontario Geological Survey,
Aggregate Resources Inventory Paper 180, 71p.

Shale Resource Areas

- Queenston Formation less than 1 m
- Queenston Formation 1 m to 8 m
- Georgian Bay Formation less than 1 m
- Georgian Bay Formation 1 m to 8 m
- Blue Mountain Formation less than 1 m
- Blue Mountain Formation 1 m to 8 m

Rowell, D.J. 2012. Shale resources inventory of southern Ontario;
An update; Ontario Geological Survey, Open File Report 6278, 46p.

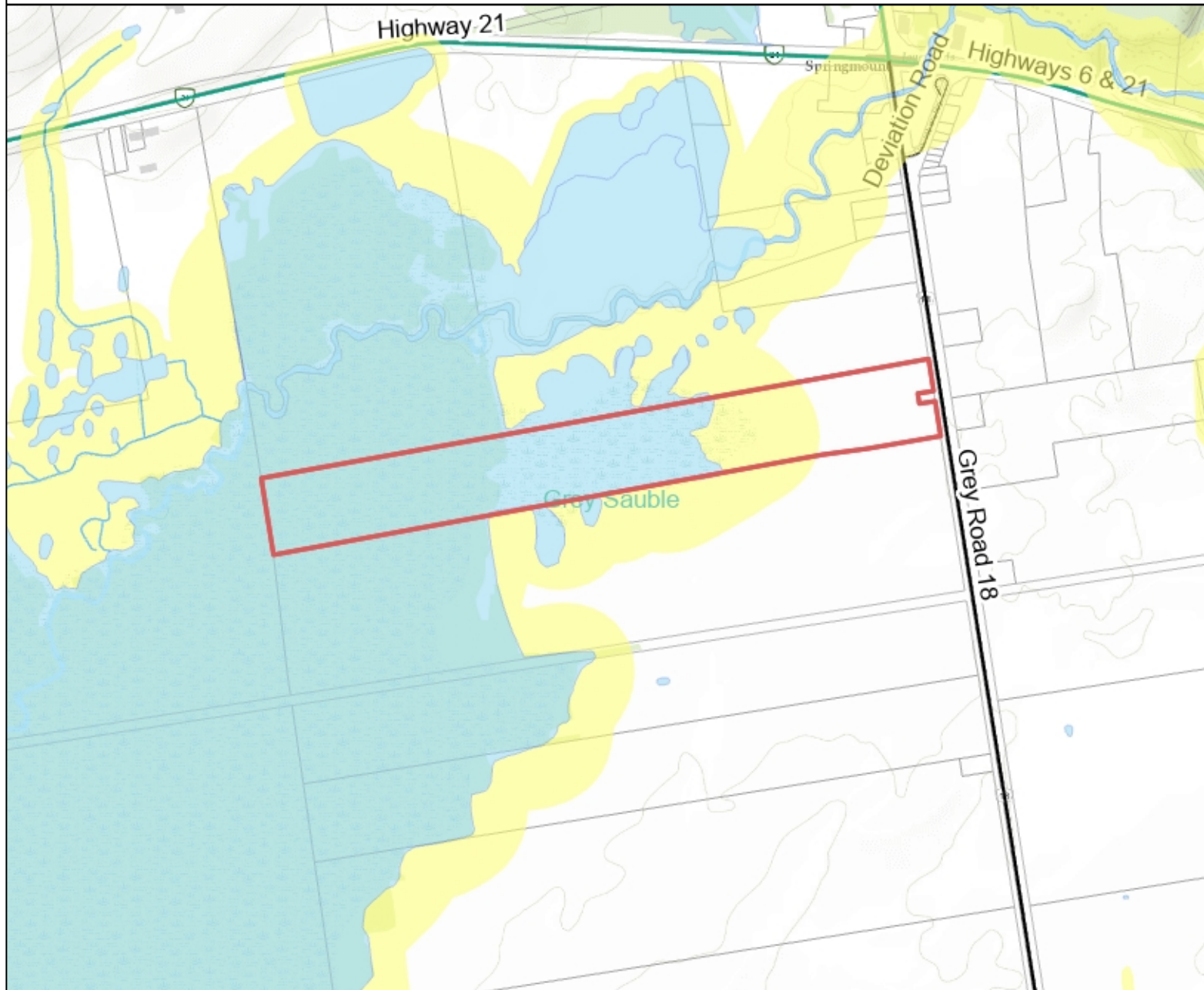
SCALE 1: 135,000

0 1,625 3,250 6,500 9,750 13,000
Meters

AUTHOR: Grey County Planning and Development
FILE NAME: GR_OP_ApdxE_Map0X36.mxd
APPLICATION: ArcMap
DATE: June 7, 2019
PROJECTION: UTM zone 17N / NAD83
SOURCE: Teranet, Ministry of Natural Resources and Forestry

INTERACTIVE MAP: geo.grey.ca
DOWNLOAD PDF: grey.ca/planning-development

This map is for illustrative purposes only. Do not rely on this map as
being a precise indicator of routes, location of features or surveying
purposes. This map may contain cartographical errors or omissions.



Legend

- CA Boundaries
- Wet Areas - GSCA
- Water Features
- Watercourses
- Regulations - GSCA
- Large Scale Roads**
 - Provincial Highway
 - County Road
 - Township Road
 - Seasonal Road
- Parcels - Current

Notes

787 0 394 787 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere
© County of Grey



This map is a user generated static output from an Internet mapping site and is for reference only.
Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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THIS MAP IS NOT TO BE USED FOR NAVIGATION