# Technical Memo

**To:** Denise Whaley, Town of the Blue Mountains
Andy Sorensen, Grey Sauble Conservation Authority
Judy Rhodes-Munk, Niagara Escarpment Commission

**From:** Allen Benson, Dillon Consulting Limited

**cc:** Bill Ulicki, Romspen Investment Corp.
Darren Vella, Innovative Planning Solutions

**Date:** April 20th, 2020

**Subject:** Camperdown Development- Proposed Engineered Swale

**Our File:** 17-5859

## Introduction

Dillon Consulting Limited was retained by Romspen Investment Corp. to prepare this wetland removal justification memo in consultation with the project team, (Tatham Engineering Limited [Tatham] and Innovative Planning Solutions [IPS]) to address the removal of a 0.33 ha patch of unevaluated wetland within the eastern portion of the proposed development area (refer to **Figure 1**, attached). A 0.29 ha portion of the wetland has already been removed as required in order to complete the Stage 3-4 archaeological studies as directed by the Ministry of Tourism, Culture, and Sport. Please note that of those 0.29 ha, a 0.04 ha piece of wetland was removed outside of Development Area limit and be replanted with native wetland tree and shrub species in order for it to naturalize back in to wetland. As a result, the total proposed loss of wetland will be 0.33 ha.

The removal of wetland for the archaeological studies prompted conversations with the Grey Sauble Conservation Authority (GSCA) and the Town of the Blue Mountains (the Town) on the potential for wetland compensation for the 0.33 ha. Through discussions with the Town and the GRCA, it was suggested that, regardless of the reason for the wetland removal, compensation in some form (form, function, etc.) would be required for the removal of the feature.

## Wetland Function

Through the Environmental Impact Study (EIS) investigations in 2017, it was determined that the existing function of the wetland was providing habitat for general wildlife; prevention of erosion and runoff; facilitating hydrological and nutrient cycling; and improving localized soil, water and air quality. Furthermore, no Species at Risk or Significant Wildlife Habitat was identified within or adjacent to the proposed development area.

The hydrogeological study that was completed by Cambium Environmental in 2018 suggests that property has a shallow slope dipping northwards towards Georgian Bay. Run-off is interpreted to flow northwards off-site and discharges into a shallow ditch located on the southern side of Old Lakeshore

Road. The study determined that although bedrock was not encountered at the surface on site, the depth of the overburden soils here observed to be relatively thin, clay/ silty clay soils overlying shale bedrock. In addition, groundwater was observed at five of eight test pits throughout the site at a depth of 1- 2.44 mbgs.

As a result, the primary function of the wetland prior to removal was hydrological, attenuating surface water flows with the potential for groundwater connections.

## Proposed Works to Address Wetland Removal

Various options have been considered in consultation with agencies to address the wetland compensation requirement; which include cash-in-lieu, creation of a naturalized stormwater management pond, and creation of a naturalized drainage feature on site.

Through subsequent discussions with agencies it was confirmed that cash-in-lieu was not a viable option as there is no mechanism currently in place for the Town, GSCA, or the NEC to accept this. In addition, as noted in the EIS, as the proposed development area and adjacent natural areas consist of Significant Woodlands, it is not ecologically sound to provide compensation for one feature (wetland) through removal of another feature (Significant Woodland).

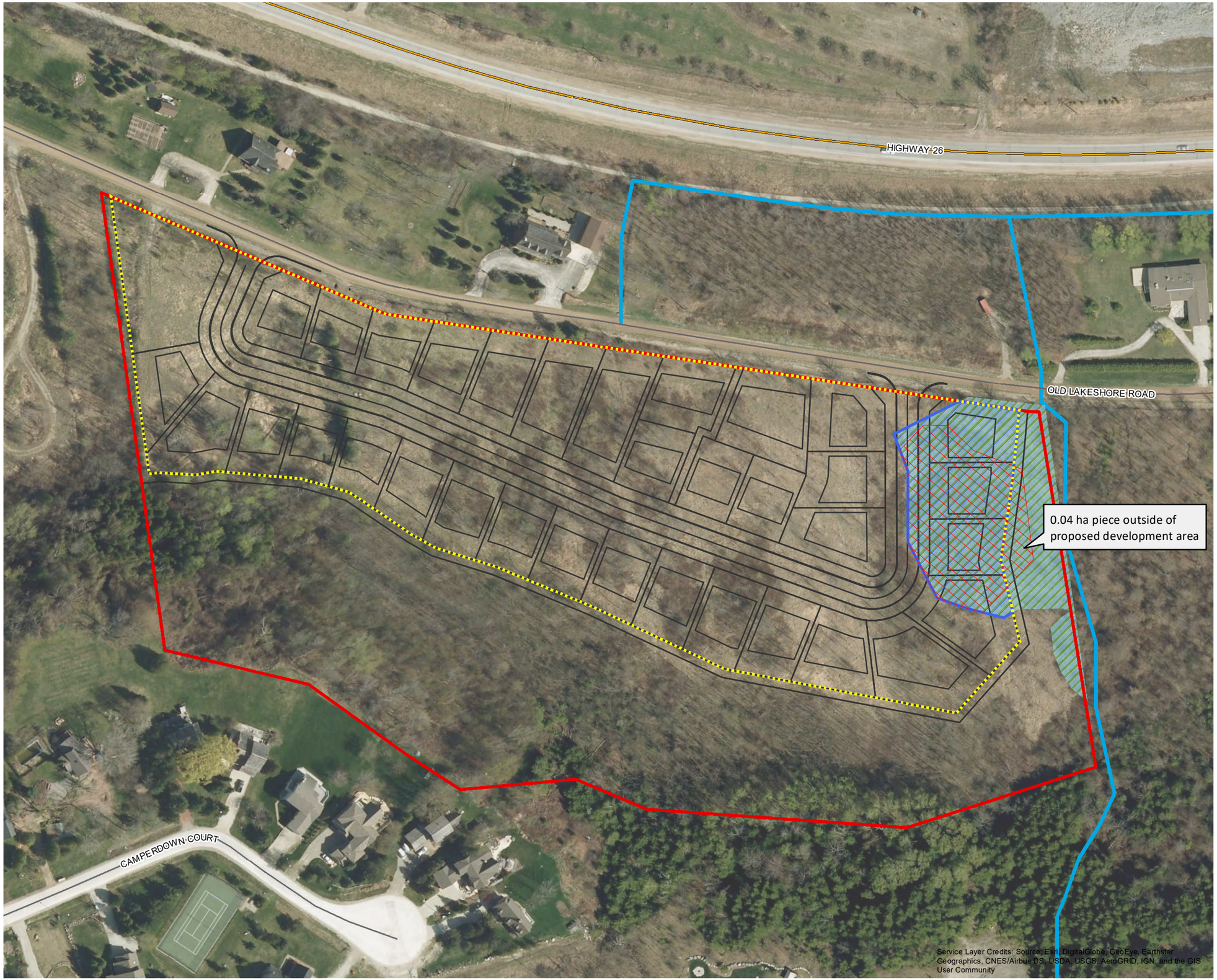
Furthermore, as previously identified through discussions with the Town, stormwater ponds and their associated plantings are considered to be infrastructure provincially, and cannot be considered natural features. As a result, stormwater ponds are not typically proposed or approved for naturalization works. Further to this, naturalization of these features can severely hinder the required maintenance of these features and facilities. Following these discussions, the Town had expressed these concerns about the maintenance of naturalized features (including naturalized drainage swales) to the NEC, which was reflected in the NEC comments.

As a result, to account for the loss of wetland function from a hydrological perspective while avoiding long term maintenance issues, Tatham has prepared a preliminary design for the incorporation of a engineered drainage swale feature around the outer boundary of the proposed Camperdown residential development plan (**Figure 2**, attached). The swale is intended to function from a hydrological perspective only; by capturing surface flows off of the escarpment and providing conveyance of flow toward Old Lakeshore Road and the existing tributary, and ultimately Georgian Bay. The drainage swale is proposed to be approximately 608 m in length and 3.5 m wide, creating a total swale area of 2128 $m^2$, (or 0.2 ha). The swale is proposed to be a minimum of 0.5 m in depth, and will contain approximately four rock check dams to provide upstream ponding without causing overflow into rear yards.

We understand that removal of key hydrological and key natural heritage features does not conform to the Development Criteria 2.6 and 2.7 of the NEP. However, because most of the wetland has already been removed by the archaeological team, we can only work with the current existing condition and move forward with a solution that works for all parties. As the wetland had not provided significant terrestrial function in its previous state, we are proposing to provide replacement of hydrological function of the wetland through use of this engineered swale to maintain flows toward the braided channel to the east. In addition, there will be setback ranging from ~20- 30 m from the channel (with the

exception of the culvert crossing at Old Lakeshore Road (~6.7 m)) to the watercourse to provide protection to the watercourse. The swale should add an extra layer of protection between the development and the watercourse.

Please refer to the attached conceptual figures that show the location of the swale within the proposed development. We trust that this satisfies outstanding concerns related to the offsetting for wetland removal and look forward to receiving your feedback on the proposed works.




# CAMPERDOWN
# TOWN OF BLUE MOUNTAINS

ENVIRONMENTAL IMPACT STUDY

## WETLAND REMOVAL

FIGURE 1

- Study Area
- Proposed Site Plan
- Expressway / Highway
- Road
- Tributaries to Georgian Bay (GSCA)
- Development Area
- Unevaluated Wetland as Delineated by Dillon
- Wetland Removal from Development (0.32 ha)
- Wetland Removal from Archaeological Studies (0.29 ha)

0 12.5 25 50 m SCALE 1:1,500

N W E S

MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI, GEOGRATIS, MNRF, GSCA
IMAGERY: October 2014

MAP CREATED BY: LK
MAP CHECKED BY: WM
MAP PROJECTION: NAD 1983 UTM Zone 17N

DILLON CONSULTING

PROJECT: 17-5859
STATUS: DRAFT
DATE: 2020-04-16

FILE LOCATION: \\30dillon\cad\CAD\2017\175859 - Camperdown Blue Mountains ON.mxd\October Memo\F1_WetlandRemoval_16APR2020.mxd


# CAMPERDOWN
# TOWN OF BLUE MOUNTAINS
ENVIRONMENTAL IMPACT STUDY

## PROPOSED SWALE
FIGURE 2

- Study Area
- Proposed Site Plan
- Proposed Swale
- Expressway / Highway
- Road
- Tributaries to Georgian Bay (GSCA)
- Nipissing Ridge Slope (approx.)
- Significant Woodlands*
- Interior Woodland Habitat (100 m)
- Interior Woodland Habitat (200 m)
- Unevaluated Wetland as Delineated by Dillon

**Ecological Land Classification**

1. CVR_4: Rural Residential Property
2. FOCM2-2: Dry-Fresh White Cedar Coniferous Forest
3. FODM7-2: Green Ash-Hardwood Lowland Deciduous Forest
4. FODM8-1: Fresh-Moist Poplar Deciduous Forest
5. SWDM2-2: Green Ash Mineral Deciduous Swamp

* Significant Woodlands outside of project boundary from Grey County Natural Heritage Systems Study and Town of Blue Mountains Constraints Mapping

0 12.5 25 50 m SCALE 1:1,500

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