

## GAMAN CONSULTANTS INC.

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February 11, 2020

Mr. Scott McIntosh  
c/o Capes Engineering  
355310 Blue Mountain-Euphrasia Townline, Ontario  
NOH-1J0

Attention: Mr. Clayton Capes, P.Eng.

Dear sirs:

Re: Meaford Campground Response to Residents  
145166 16<sup>th</sup> Sideroad Meaford Campground  
File 19012.00

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GAMAN Consultants Inc. (GAMAN) is pleased to submit this letter in response to residential concerns related to groundwater supply in the vicinity of this proposed development.

By way of background, Mr. McIntosh owns a 10-ha parcel of land located on Part Lot 15, Concession 11, Town of Meaford (formerly St. Vincent Township) in Grey County. The physical address of the site is 145166 16<sup>th</sup> Sideroad. GAMAN completed a hydrogeological evaluation to address groundwater quantity, quality and the potential effects of groundwater takings on surrounding users in a report dated October 28, 2019.

Following a conference call with the Town, we were asked to address concerns from local residents related to groundwater takings. For convenience, we have summarized individual concerns expressed in these emails in Table 1 and provide individual comments to those concerns.

We have provided a broader explanation related to:

1. Groundwater quantity in the Bighead River Sub-Watershed,
2. Water storage on-site,
3. The effects of sewage effluent on neighbouring wells and
4. MECP design criteria for developments on private water and septic services.

There is a common concern about water shortages within the Bighead River Sub-watershed. The Saugeen, Grey Sauble Northern Bruce Peninsula Source Protection Committee prepared a report that was approved by the Province of Ontario. *Chapter 3 Water Quantity Stress Assessment Approved Assessment Report* for the Grey Sauble Source Protection Area dated October 15, 2015 documents estimates of groundwater takings in relationship to available groundwater recharge by sub-watershed including the Bighead River Sub-watershed. Table 3.12.1 on page 3-41 documents the amount of groundwater recharge in relationship to groundwater takings in the sub-watershed. The study documents water takings at 6% of the total recharge and concludes that the sub-watershed experiences low stress in relationship to water quantity. We infer from this table that the Conservation Authority is satisfied that the Bighead River Sub-watershed is not experiencing shortages in groundwater and depletion of the water table is not occurring.

While this confirms as a whole that the sub-watershed is not stressed, perhaps there are areas within the sub-watershed where groundwater quantity is not enough for intended purposes. For example, a dug or bored well in this study area may not be productive but there may be a productive water-bearing zone at depth. Our review of local well records near this site shows that wells were tested at flow rates ranging from 9 to 45 L/min. If a well is constructed on-site and yields water within the range of test rates, there should be ample amounts of water to service this proposed use. At these test rates, water may need to be stored to provide for times when demand is high during the day. This water could be stored below grade using a small reservoir for example. We understand that the updated FSR recommends 8,280 litres of storage for a revised daily demand of 5,400 L/day. The revised daily demand is lower than was documented in the original FSR.

Residents are also concerned about the amount of water that is needed for this site. The amount of water required is very small compared with the size of this property. The need for 6,050

L/day reported in our October 2019 report has been reduced to 5,400 L/day in the February 2020 Capes Engineering FSR. This water taking is less than the amount of water that 3 estate, 4-bedroom dwellings would be designed for on 10-ha of land using Ministry of Environment, Conservation and Parks (MECP) criteria for rural developments on wells and septic systems. Each of the 4-bedroom dwellings would be designed for 2,250 L/day based on MECP criteria.

Some residents are concerned about the potential effect of sewage effluent on surrounding wells. There is ample recharge occurring on-site to dilute the effluent to acceptable levels before it reaches the property boundary.

Some residents wondered why this site does not require MECP approvals for water and sewage. The site will be serviced with groundwater from a drilled well and the use of two septic systems. MECP is involved when the application for on-site sewage disposal exceeds 10,000 L/day. Since the site is expected to discharge 5,400 L/day, the municipality is responsible for approving the sewage system(s). The MECP Permit To Take Water approval process occurs when the taking of water exceeds 50,000 L/day. This water taking of 5,400 L/day is barely 10% of this criterion and is considered a small water taking. The Local Health Unit could become involved with reviewing water treatment requirements for the campground. There will be a need for MECP approvals related to water treatment; however, this is operational matter related to the provision of safe drinking to the campers and not an issue that affects neighbouring residents.

Should you have any questions, please contact us.

Yours truly,  
GAMAN Consultants Inc.



Gary R. Hendy, P.Eng.  
Consulting Engineer  
grh

# TABLE 1: LIST OF RESIDENTIAL CONCERNS

## Meaford Campground Response to Residential Concerns (19012.00)

Resident	Email Date	Summary of Concerns Related to Water Supply and Effects of Sewage Effluent	Reply Comments
M. Wright	4-Dec-19	Water Table Depletion	Conservation Authority Report documents Bighead Rive Sub-watershed as a low stress; therefore, water depletion should not be occurring.
Stephanie Price	7-Dec-19	no comments related to water quantity	Resident is reported to be 1.5km south from the site and well beyond any potential effects of groundwater takings from this development.
Beth Taylor	8-Dec-19	Resident had not seen Hydrogeological Report & concerned about septic waste on river	The revised septic effluent volume totals 5,400 L/day and is diluted naturally by groundwater recharge on this 10ha without an adverse impact on groundwater or surface water quality. There are no wells immediately downgradient to the southeast of the site where groundwater is expected to flow.
Gordon Price	8-Dec-19	no comments related to water quantity	No response required
Pamela Fulford	16-Dec-19	No proposed methods for on-storage of groundwater , Septic volume discrepancies & why development does not require MECP approvals	The volume of water storage, if needed, would be small and could be accommodated with a small buried reservoir. The total sewage flow was revised to 5,400 L/day and is very low for a 10 hectare site. MECP approvals required when groundwater takings exceed 50,000 L/day or when sewage discharge exceeds 10,000 L/day. Since the site requires 5,400 L/day of sewage disposal and water supply, MECP is not the approving authority for this small system. MECP approvals will be needed for water treatment; however, this is an operational issue that does not impact local residents.
Beth Taylor	9-Dec-19	no water supply issues	No response required
Frazer & Nancy Holliss	9-Dec-19	Septic runoff affecting wells	Shallows groundwater is expected to flow southeast and there are no wells in that area as shown in Figure 2 of the Hydrogeological Report. A 10-ha site should provide a lot of recharge to dilute the effluent before it reaches this property boundary.

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### Meaford Campground Response to Residential Concerns (19012.00)

Resident	Email Date	Summary of Concerns Related to Water Supply and Effects of Sewage Effluent	Reply Comments
Gord Naylor	10-Dec-19	The application calls for a significant use of groundwater. Some farms use cisterns and water is in short supply in Bighead River Valley. This development will use indeterminate amounts of water.	This water taking is limited by the physical capacity of the sewage system; therefore the water taking is already known and not indeterminate. At 5,400 L/day, this water taking is well below the 50,000 L/day criterion MECP requires for a Permit To Take Water and it is considered a small water taking. The Naylor site is 2km from this site and well beyond any potential effect of this small water taking. While any given property may have a water shortage, the Conservation Authority has determined this sub watershed as a "low stress" designation for groundwater quantity.
Gord Naylor	11-Dec-19	Resident is concerned about the well and septic capacity and whether the hydrogeological study included discussions with local farmers.	The revised water demands of 5,400 L/day correspond to a sewage capacity of 5,400 L/day and is considered small for on-site wastewater disposal and water takings for a 10ha site. There no was discussions with other users of groundwater including farmers as part of the study. A small scale study of this nature considered water takings within about 500 to 1,000 metres of the site using water well record information.
Pamela Fulford	9-Dec-19	The hydrogeological report references need for MOECC approval if more than 6 new water service units are needed. Water storage tank should be implemented as part of site plan approval.	We reviewed the Hydrogeological Report and found no reference to MOECC approval for 6 or more water service units. The revised FSR is recommending 8,250 litres of storage. The need for water storage is an operational matter that does affect other local users of groundwater. Water treatment will need to follow Ontario Regulation 170/03 as amended. This is an operational issue related to providing safe drinking water and not an issue that affects residents off-site.
Sandy Price	16-Dec-19	First and foremost, the amount of precious water in our area is minimal. The septic use will be massive compared to rural residential properties.	The Conservation Authority describes this area as a "low stress" area for water quantity. Local water wells surrounding the site show test rates ranging from 9 to 45 L/min that would appear to supply more than enough water for this proposed use based on 5,400 L/day. The volume of sewage effluent is less than 10,000 L/day that MECP considers as a large system for on-site wastewater.