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via e-mail (jwdmiller@rogers.com)
CCTA File 117024

Jason Miller

Miller Golf Design Group
103 Hillcrest Drive, Box 308
Clarksburg, ON, N0H 1J0

**Re: Z Vineyard/Winery Development, Municipality of Meaford
Traffic Review**

Dear Jason:

As requested, we have reviewed the proposed vineyard/winery development from a transportation perspective, addressing the site access point, site traffic volumes, on-site circulation and the potential impacts to the adjacent road system.

Proposed Vineyard/Winery Development

Site Location

The subject property is located at 357038 The Blue Mountains/Meaford Townline Road in the Municipality of Meaford, as illustrated in Figure 1.

Development Plan

The proposal for this site is to develop a vineyard/winery which would include a facility for the processing, manufacturing, bottling and storage of wine products. An accessory 60-seat restaurant and small retail store are also proposed. A conceptual site plan is provided in Figure 2.

Site Access & On-Site Circulation

The site will be served by a single access on the west side of The Blue Mountains/Meaford Townline Road, located approximately 450 metres north of the Euphrasia/St. Vincent Townline/Side Road 30 as per the concept plan. The access will operate under stop control, will provide 1 inbound lane and 1 outbound lane and will be appropriately sized to accommodate passenger vehicles and transport trucks recognizing that such will be required to service the site.

With respect to on-site circulation, the site will be served by an internal private road with a width of 6.0 metres. As the internal road will be designed to accommodate transport trucks, it is inferred that it will be able to accommodate on-site circulation of emergency vehicles.

Existing Conditions

Road Network

The Blue Mountains/Meaford Townline Road is a local road and has a 2-lane rural cross section (i.e. gravel shoulders and open drainage ditches). It is oriented north-south through the study area and has a posted speed limit of 80 km/h, thus a design speed of 100 km/h has been assumed (posted speed limit + 20 km/h for higher speed roads). As a local road, The Blue Mountains/Meaford Townline Road has a theoretical planning capacity of 400 vehicles per hour per lane (vphpl). Photos of the area road network are provided in Figure 3.

Traffic Volumes

Daily traffic volumes were obtained from the Municipality of Meaford for The Blue Mountains/Meaford Townline Road as counted on September 14, 2014 (300 total vehicles were observed). To reflect current 2017 conditions, with consideration for the summer period (recognizing that summer volumes are typically greater), traffic volumes on Highway 26 from Thornbury to the Meaford east limits were reviewed (highway traffic volumes as published by MTO provide historic volumes reflective of average, summer and winter conditions from which appropriate growth factors can be determined). The corresponding traffic volumes are provided in Table 1, for the period 2009 to 2013, which is the latest published data (additional traffic count information is provided in Appendix A).

Table 1: Highway 26 Volumes (Peel Street Culvert to Meaford East Limit)

Volumes	2009	2010	2011	2012	2013	Annual Growth 200 to 2013
Average Annual Daily Traffic (AADT)	6300	6300	6300	6350	6400	0.4%
Summer Average Daily Traffic (SADT)	6650	6650	6300	6350	6400	-1.0%

As noted, volumes on Highway 26 between Thornbury and Meaford have remained relatively consistent over the period 2009 to 2013 (ie. little if any growth). Furthermore, in considering average and summer volumes, there is little increase in summer conditions.

To determine the 2017 peak hour traffic volumes (peak hour vs daily is more critical in terms of traffic operations), the following have been assumed:

- 2% annual growth from 2014 to 2017 (which is considered conservative in context of the actual historic growth realized);

- peak hour volumes reflect 10% of the daily volume; and
- a 50/50 directional split (ie. northbound/southbound).

The derivation of the 2017 peak hour volumes on The Blue Mountains/Meaford Townline is summarized in Table 2. As noted, the peak hour volumes are expected to be less than 20 vphpl.

Table 2: 2017 The Blue Mountains / Meaford Townline Road Volumes

Road Section	2014 Daily	2017 Daily	2017 Peak Hour
The Blue Mountains / Meaford Townline Road	300	325	16 NB + 16 SB = 32 Total

Traffic Operations

As previously noted, the road has an assumed planning capacity of 400 vphpl. In considering the peak hour directional volumes, the road is operating below capacity (5% of capacity or less) and can readily accommodate additional traffic volumes. While this represents a simplistic approach to establishing traffic volumes on the Blue Mountains/Meaford Townline Road, such is considered reasonable given the noted volumes anticipated. Given the resulting operating levels, significant increases in the volumes could be readily accommodated.

Future Conditions

Vineyard/Winery Trips

The number of vehicle trips to be generated by the proposed vineyard/winery development has been determined based on the development size, land use and trip generation rates provided in the *ITE Trip Generation Manual, 9th Edition*. As there is no ITE land use comparable to a vineyard/winery, trip estimates have been based on the proposed restaurant land use with consideration for the ITE land use category quality restaurant (Code 931). Under this premise, it is assumed that patrons to the restaurant will also be patrons of the vineyard/winery and the associated retail store. Conversely it is assumed that the restaurant and retail store will serve those visiting the vineyard/winery and thus will not generate additional trips.

As there was no directly comparative land use to account for the permanent and seasonal employees involved in the wine production, consideration was also given to a “first principles” approach, based on the following assumptions:

- employees will arrive during the AM peak hour, and leave during the PM and Saturday peak hour;
- each employee will take their own vehicle; and
- all vehicles will arrive or depart within the same hour.

The associated trip rates are provided in Table 3 for the peak hour of each use.

Table 3 - Peak Hour Trip Generation Rates

Land Use	ITE Code	Variable	Trip Estimates (Total)		
			AM	PM	Saturday
restaurant	931	units	0.16	0.30	0.33
permanent employees	-	employee	1	1	1
seasonal employees	-	employee	1	1	1

As indicated, the PM and Saturday peak hours yield the greatest trip generation. The resulting trip estimates are summarized in Table 4 and represent the weekday PM and Saturday peak hour of the adjacent street.

Table 4: Vineyard/Winery Trip Generation

Land Use	Rate/ Estimate	Weekday PM Peak Hour			Saturday Peak Hour		
		In	Out	Total	In	Out	Total
restaurant	60 seats	11	7	18	12	8	20
permanent employee	12 employees	-	12	12	-	12	12
Total		11	19	30	12	20	32
seasonal employee	20 employees	-	20	20	-	20	20
Seasonal Total		11	39	50	12	40	52

As noted, the proposed vineyard/winery development is expected to generate in the order of 50 trips during the weekday PM and Saturday peak hours of the peak season. It is noted that the number of employees reflects both field staff and production staff all operating simultaneously. It is expected that as field operations are completed, the same staff would be involved in line production, and thus the total number of employees would be reduced. Notwithstanding, to ensure a conservative approach all employees are assumed to operate independently. Furthermore, as previously noted, it is assumed all staff will arrive/depart during the peak hours, therefore, compounding the site volumes.

The assignment of the estimated site generated trips to The Blue Mountains/Meaford Townline Road is illustrated in Figure 4 assuming an equal distribution of trips to/from the north and south

Traffic Volumes

The 2017 traffic volumes with consideration for the proposed vineyard/winery are shown in Figure 5.

Traffic Operations

Given the low levels of development and traffic volumes on The Blue Mountains/Meaford Townline Road, the road will continue to operate well below capacity following construction for the proposed vineyard/winery. Thus, the impacts of the traffic generated by the site on the adjacent road network will be negligible.

Sight Line Analysis

Based on MTO geometric design standards, the minimum stopping sight distance for a design speed of 100 km/h (posted 80 km/h + 20 km/h) is 185 metres. This provides a sufficient distance for an approaching motorist to observe a stationary hazard in the road (ie. a vehicle stopped on The Blue Mountains/Meaford Townline Road waiting to access the site) and bring their vehicle to a complete stop prior to the hazard.

The sight distances along The Blue Mountains/Meaford Townline Road at the site access are in excess of 200 metres in both directions, and thus the MTO requirement is satisfied. Vehicles entering and exiting the site have sufficient sight lines to ensure manoeuvrability in a safe and efficient manner.

Summary

In consideration of the traffic volumes on The Blue Mountains/Meaford Townline Road, the projected traffic volumes associated with the vineyard/winery development and the provision of excellent sight lines for vehicles entering and exiting the site, no transportation system improvements are considered necessary. The proposed site access location and configuration are also considered appropriate in context of the traffic volumes and vehicles to be served.

Yours truly,
C.C. Tatham & Associates Ltd.



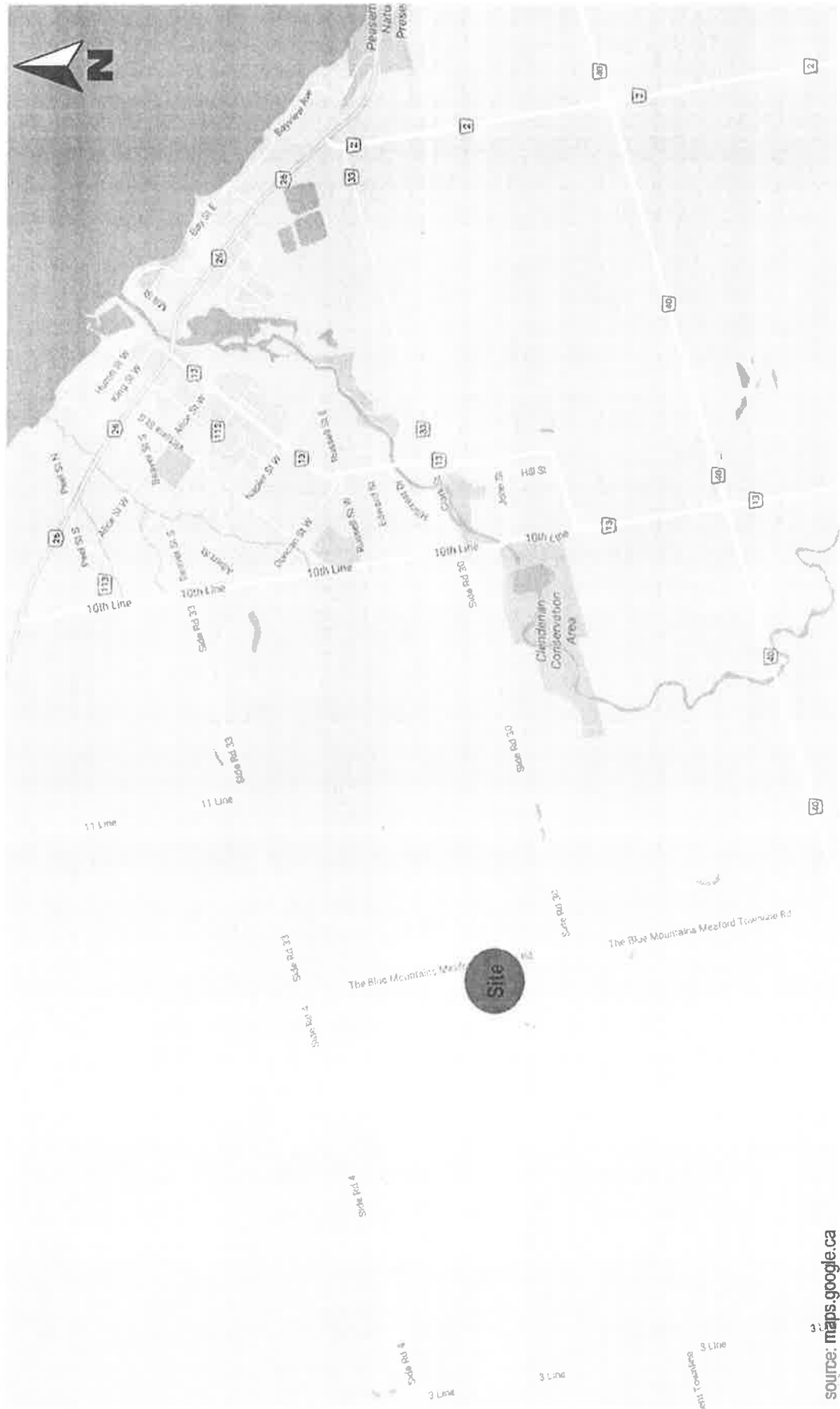
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**Appendix A:
AADT Volumes**



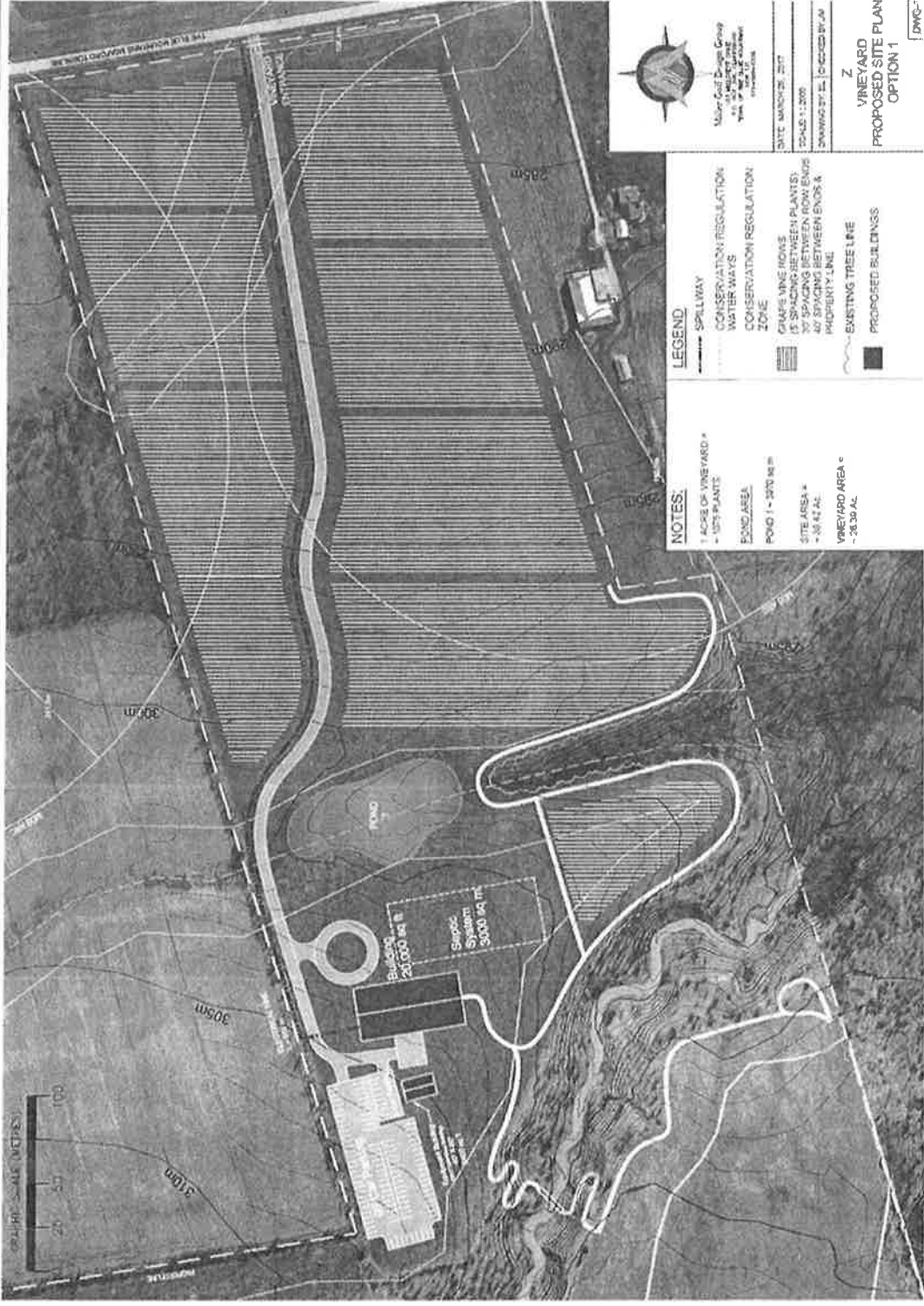
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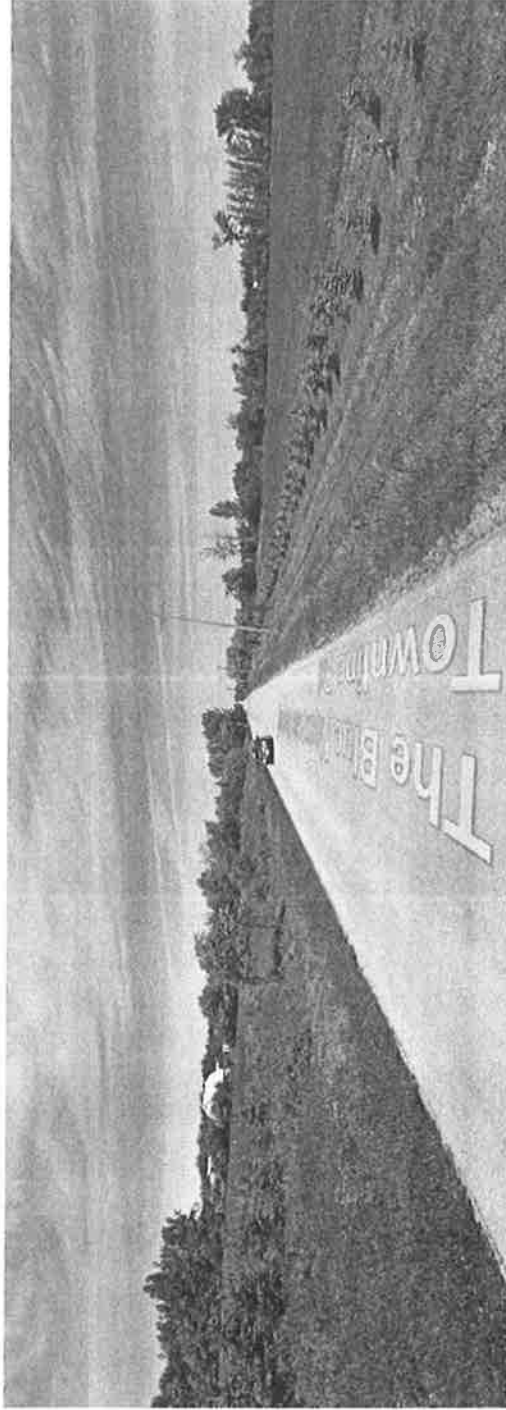


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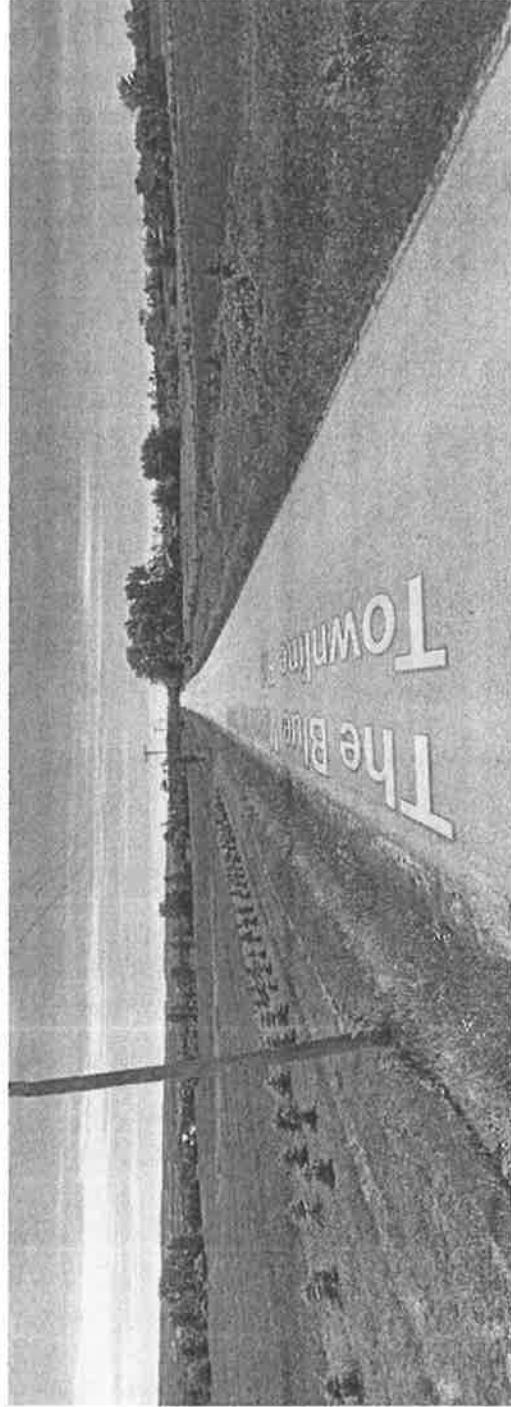
Vineyard/Winery Development, Traffic Review
Site Location

Figure 1





Looking north on The Blue Mountains / Meaford Townline Road from the proposed site access.



Looking south on The Blue Mountains / Meaford Townline Road from the proposed site access.

source: Google Streetview



The Blue Mountains /
Meaford Townline Road

↑ (6)
5
↓ (20)

↑ (6)
5
↓ (0)

↑ (20)
20
↓ (20)

↑ (6)
5
↓ (0)



Vineyard/Winery
Development

100 Weekday PM Peak Hour
(100) Saturday Peak Hour

The Blue Mountains /
Meaford Townline Road

↑ (20)
20
↓ (6)



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Vineyard/Winery Development, Traffic Review

Site Generated Trips

Figure
4



The Blue Mountains /
Meaford Townline Road

↑ (22)
22
↓ (36)

↓ (6)
5
↓ (16)

↑ (20)
20
↓ (20)

↑ 36
5
↑ (16)

↑ (36)
36
↓ (22)

100 Weekday PM Peak Hour
(100) Saturday Peak Hour

The Blue Mountains /
Meaford Townline Road



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Vineyard/Winery Development, Traffic Review

2017 Total Volumes

Figure
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