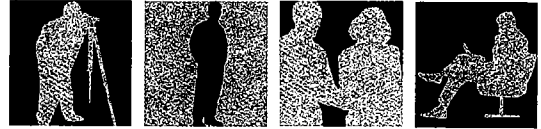




Gamsby and Mannerow
ENGINEERS



**TRAFFIC IMPACT ASSESSMENT
PROPOSED RETREAT CENTRE
PART LOT 13, CONCESSION 2, E.G.R. (GLENELG)
MUNICIPALITY OF WEST GREY**

File No. C-7274

1.0 INTRODUCTION

A Retreat Centre is proposed for Part Lot 13, Concession 2, E.G.R. (Former Township of Glenelg) in the Municipality of West Grey. The location of the proposed centre is shown on Figure 1.

The Retreat Centre is proposed to be developed in two phases with each phase providing accommodation for up to 250 persons for a total of 500 persons plus on-site staff at full development. Visitors to the centre would be family groups of 3-4 persons. All of the trips to the site would originate in the Greater Toronto Area (GTA) with an estimated 25% of the visitors being residents in the GTA and the remaining 75% being from outside of Canada and arriving/departing via Pearson Airport. Trips to the site by GTA residents would be private vehicle. Trips from the airport would be by intercity type bus.

It is expected that 66% of the visitors to the Retreat Centre would stay for a one-week period (Friday to Friday or Sunday to Saturday, etc.) arriving between 9:00am and 10:00pm on the first day and departing between 3:00 pm and 4:00 pm on the last day. The remaining 33% of the visitors would stay for a weekend, arriving on Friday and departing on Monday at similar times as above.

Occupancy at the centre would be highest during the May to October period with the November to April period expected to be used for only one one-week long session in any six week period.

Typically, there would be 3 delivery trucks to the site for each one-week session and 2 delivery trucks for each weekend session.

2.0 SITE GENERATED TRAFFIC

Phase 1: 250 persons in total on site

Week Long Sessions:

66% of total ~ 165 persons

25% arrive/depart by private vehicle ~ 40 persons

75% arrive/depart by bus ~ 125 persons

Assuming 3-4 persons per private vehicle ~ 10-13 vehicles

Assuming 35-40 persons per bus ~ 3-4 busloads

people engineering environments

Gamsby and Mannerow Limited • Guelph, Kitchener, Listowel, Owen Sound

1260 Second Avenue E., Unit 1, Owen Sound, ON N4K 2J3 519-376-1805 fax 519-376-8977 www.gamsby.com

Weekend Sessions:

33% of the total ~ 85 persons

25% arrive/depart by private vehicle ~ 20 persons

75% arrive/depart by bus ~ 65 persons

Assuming 3-4 persons per private vehicle ~ 5-6 vehicles

Assuming 35-40 persons per bus ~ 2 busloads

The highest potential number of total daily trips to and from the Retreat Centre would occur if a week session ended (or started) on a Friday with a weekend session starting on a Friday. Similarly, the same situation would occur with a one-week session starting (or ending) on a Monday and the weekend session ends on a Monday. The total number of trips to the Retreat Centre on these days is estimated as follows:

Peak Day Morning Period:

	<u>Private Vehicles</u>	<u>Buses</u>
Weekend Session Arrivals	5-6	2
One-Week Session Arrivals	10-13	3-4
Total Arrival Trips	15-19	5-6
Weekend Session Departures		2
One-Week Sessions Departures		3-4
Total Departure Trips		5-6
Total All Trips	15-19	10-12

Peak Day Afternoon Period:

	<u>Private Vehicles</u>	<u>Buses</u>
Weekend Session Arrivals		2
One-Week Session Arrivals		3-4
Total Arrival Trips		5-6
Weekend Session Departures	5-6	2
One-Week Sessions Departures	10-13	3-4
Total Departure Trips	15-19	5-6
Total All Trips	15-19	10-12

Phase 2: These trips would be doubled when phase II is completed.

Peak Day Morning Period:

Total All Trips	30-38 Private Vehicles
	20-24 Buses

Peak Day Afternoon Period:

Total All Trips	30-38 Private Vehicles
	20-24 Buses

3.0 PROBABLE ROUTES TO THE RETREAT CENTRE

For the trips originating in the GTA, the most probable route to the Retreat Centre would be from Highway 10 either using Grey Road 4 from Flesherton or Grey Road 12 from Markdale and then local roads to the site. Trips Using Grey Road 12 could either use Concession 2 or Highway 6 to access the site. From Highway 6, vehicles would use Glenelg Road 6 easterly to Concession 2 and then northerly for 0.5 km. to the site. Trips using Grey Road 4 would use Concession 2 northerly for 13.7 km to the site.

4.0 EXISTING CONDITIONS

4.1 EXISTING TRAFFIC VOLUMES

Twenty four hour traffic counts available from Grey Country Transportation and Public Safety indicate the following;

Grey Road 12: 1600 vehicles (2003 count) near Markdale
1050 vehicles (2003 count) east of Highway 6

Grey Road 4: 2400 vehicles (2006 count) between Grey Road 14
and Grey Road 23

Information obtained from the Ministry of Transportation indicates an Annual Average Daily Traffic Volume of 4100 (2004 data) on Highway 6 between the north limits of the former Town of Durham and Grey Road 4 and 5000 (2004 data) for the section from Chatsworth Road 24 to Chatsworth Road 24 at Williamsford.

There is no traffic count information available for Glenelg Road 6 or Concession 2 but it is expected that the volumes would be relatively low in the 100-500 vehicle per day range.

4.2 EXISTING ROAD CONDITIONS:

Highway 6 and Grey Road 4 are constructed to Provincial Highway Standards for a posted speed of 80kph. Grey Road 12 is constructed to Grey County Standard for a posted speed of 80kph. All of these roads are in generally good condition.

Glenelg Road 6 is a rural, gravel surfaced road extending 2.5 km easterly from Highway 6 to Concession 2. The posted speed for 0.4 km east of Highway 6 is 70kph due to the road profile. The remaining section of the road does not have a speed zone posting so an 80kph maximum speed is permitted. It is known from another project in this area, that the 70kph posted section has stopping sight distance deficiencies and may be reconstructed to a 50kph standard for vertical sight distance with some widening of the road base and surface. There is a steep grade with a probable deficient sight distance deficiency just west of the intersection with Concession 2.

Concession 2 has a 7.0m wide asphalt or surface treatment pavement with 1.0m wide shoulders from Grey Road 4 northerly for 7.0km to the intersection with Concession 6 (Edge Hill). The alignment of this section of the road is tangential with a moderately rolling profile. North of Concession 6, Concession 2 has been reconstructed to a 9.0m wide gravel surface (including shoulders) for 1.7km to just south of the bridge over the Rocky Saugeen River. The rest of the reconstructed section of Concession 2 is moderately rolling in vertical profile and tangential in horizontal alignment.

North of the Rocky Saugeen River Bridge to Grey Road 12, the 1.7km length of Concession 2 is an unimproved gravel surface (5.5m to 6.0m width) road with one section of curvilinear alignment. There is no speed reduction posted for the curvilinear section. The vertical alignment is moderately rolling in profile.

Between Grey Road 12 and the proposed Retreat Centre, a distance of 2.3km, Concession 2 is an unimproved gravel surface road with a curvilinear section just north of Grey Road 12 (no speed reduction posting). Due to the degree of curvature there are some areas where oncoming traffic may not be visible until the meeting vehicles are relatively close. The vertical alignment is rolling.

The gravel surfaced sections of the Concession 2 appears to be adequately maintained with no structurally (i.e. road base failures) deficient sections apparent during the review of the roads conducted for this study in June, 2008.

5.0 TRAFFIC IMPACT ASSESSMENT

Traffic to and from the proposed retreat Centre would occur only at certain times during the week and most probably not at the volumes discussed for the “worst case” peak day Morning and Afternoon periods. It is likely that the starts and/or ends of the week long sessions and the weekend sessions would coincide only infrequently. Also only a few one-week sessions would be held during the November to April period.

The additional traffic generated by the proposed Retreat Centre would not be sufficient to warrant any operational improvements, such as turning lanes at the Concession 2 intersections with Grey Roads 4 or 12, or to create a capacity deficiency that would require additional lane widening on any of the potential access routes.

The existing geometrics (vertical and horizontal alignment) on Concession 2 are acceptable for larger vehicles like buses to travel at the regular speed. It would be advisable to place additional

Chevron Alignment signs on the curvilinear sections to advise drivers unfamiliar with the road of the changes in alignment. An oversized Chevron Alignment (Wa-109) should be used as the operating speed is greater than 70kph, rather than the smaller Wa-9 signs now in use.

The 4.5km section of the unimproved Concession 2 north of the Rocky Saugeen River Bridge to the site has a surface width deficiency throughout most of this length. Desirable geometric standards for the rural Ontario roads for Average Annual Daily Traffic less than 400 is a 6.50m width (2x 3.25m lanes) with 1.0m wide shoulders. The existing width would be sufficient for a bus and a typical car or small truck to meet and pass safely under normal driving conditions. Some caution and speed reduction would be required when larger vehicles (such as two buses) meet.

This potential conflict may be reduced to a minimum number of occurrences by:

- i) Scheduling sessions so that incoming buses are seldom arriving when outgoing buses are leaving the site
- ii) Designating access to the Retreat Centre only via Grey Road 12 so that the length of travel on the width deficient roadway is reduced from 4.5km to 2.8km.

6.0 CONCLUSIONS

1. The private vehicle and bus traffic generated by the proposed Retreat Centre will take place mostly during May to October period with significantly less traffic during the November to April period.
2. No geometric or structural improvements to the potential access roads to/from the Retreat Centre are warranted because of the traffic generated by the facility. Traffic to/from the site would be concentrated into short time periods during the week, most often occurring on Friday and Mondays.
3. Glenelg Road 6 should not be used as a route to or from the site until such times as the existing sight line deficiencies are corrected.
4. Potential conflicts between large on-coming vehicles on the sub-standard width sections of Concession 2 can be reduced by scheduling sessions at the Retreat Centre to start and end at off-set times and by using only the section of Concession 2 north of Grey Road 12 to reduce the length of travel on the unimproved road.

7.0 RECOMMENDATIONS

1. Upgraded Chevron Alignment signs (Wa-109) should be placed to improve notification to drivers unfamiliar with the curvilinear sections of the Concession 2 of these conditions.

GAMSBY AND MANNEROW LIMITED

Per:



K. A. Cameron, P.Eng.

KAC/ah

cc: File No. C-7274

