G R E E R
GALLOWAY
CONSULTING
ENGINEERS

1620 Wallbridge Loyalist Road
R.R. #5
Belleville, Ontario
K8N 4Z5

Telephone
(613) 966-3068

Facsimile
(613) 966-3087

E-mail
Belleville@greergalloway.com

10 January 2023

Re: Dunes Motel, 2052 County Road 18, Prince Edward County
c/o EcoVue Consulting Services Inc.

Subject: Commercial Entrance / Traffic Brief

Project Number: 2136509

Having visited the subject property and reviewed the available documents, the following is provided in support of the development application process.

Existing Conditions

The subject property is located at #2052 County Road 18 in Prince Edward County. An aerial and street level image of the property is provided below.

There is a one storey residential building (red) on the development property in addition to the Outerbanks Deli building (grey). They are accessed by a wide gravel entrance and driveway off County Road 18.

County Road 18 is a rural 2-lane highway with a posted speed limit of 60 km/h. Traffic activity is a mixture of local, tourism and agricultural.

To the west there is a four-way stop intersection with County Road 18 and County Roads 11 (north leg) / 12 (south leg). Volumes through this intersection vary but

Consulting Engineers of Ontario
Professional Engineers Ontario

G R E E R
GALLOWAY
CONSULTING
ENGINEERS

1620 Wallbridge Loyalist Road
R.R. #5
Belleville, Ontario
K8N 4Z5

Telephone
(613) 966-3068

Facsimile
(613) 966-3087

E-mail
Belleville@greergalloway.com

are highest in the summer with access to the busy Sandbanks Provincial Park via County Road 12.

To the east and across the road is the Caddy Shack mini putt entrance. Beyond that is an agricultural access to the fields adjacent to the development property.

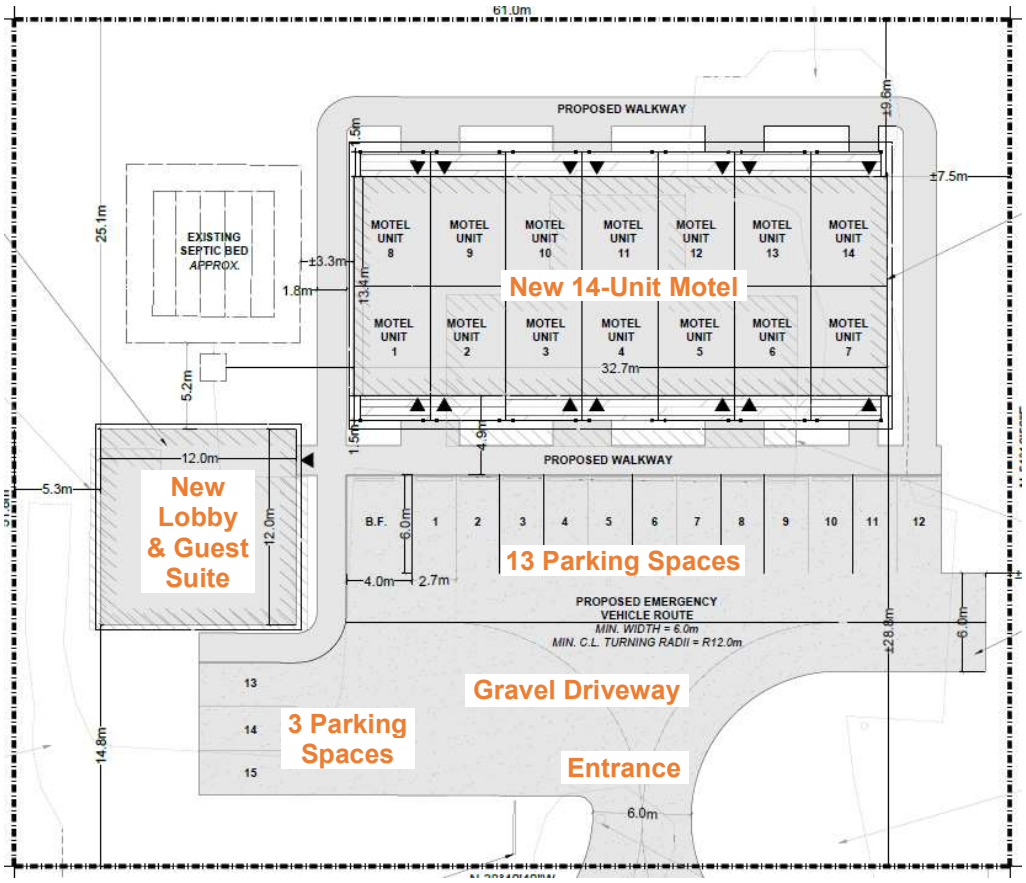
Proposed Development

The existing Outerbanks Deli building will be demolished and replaced with a new 14-unit motel over a similar building footprint. The existing one-storey residential building will also be demolished. It will be replaced with a new two-storey building, with the ground floor serving as a lobby/ common area for the guests of the motel, and the upper floor being constructed as a guest suite.

Including the second-floor guest suite and all of the motel units, a total of 15 accommodation units are expected. Fifteen parking spaces, plus one barrier free parking space are provided on the site plan. Guests will use the provided walkway to access the rear units of the motel from the parking lot.

The new 6m wide entrance will be constructed at the existing sign and light structure (which will be moved). It will be much narrower to better control traffic on and off the property. The portion of driveway that presently serves the existing residential building will be removed (along with the building) and grassed.

Below is an excerpt of the concept plan prepared by EcoVue Consulting. While this plan is likely to change as the development process proceeds, the scale and fundamental elements will remain similar. Only significant changes will warrant a change to this document.



G R E E R
GALLOWAY
CONSULTING
ENGINEERS

1620 Wallbridge Loyalist Road
R.R. #5
Belleville, Ontario
K8N 4Z5

Telephone
(613) 966-3068

Facsimile
(613) 966-3087

E-mail
Belleville@greergalloway.com

The construction schedule and opening date is not known.

Trip Generation

It is difficult to estimate peak hour traffic activity for a small business such as this but even if full parking lot turnover is assumed during the peak hour a modest 16 trips would enter and exit the site. This may occur at check-in or check-out times.

It is expected that traffic generated by a motel will be notably less than the original deli.

Traffic Volumes / Entrance Level of Service

Greer Galloway Traffic Count

Greer Galloway counted traffic at the four-way stop that connects County Roads 18, 11 and 12 (beside Sandbanks) on Monday, August 16, 2021. Counting started at 9:20am and continued for two hours. Results are summarized below.

ROAD	DESCRIPTION	TRAFFIC VOLUME (2h)	POSTED SPEED	Date of Counts
County Road 18	Westbound (from Cherry Valley)	220	60	August 16, 2021
County Road 18	Eastbound (to Cherry Valley)	130	60	August 16, 2021

In front of the development property, traffic volume in both directions totalled 350 vehicles over two hours. This equates to approximately **175 vehicles per hour**.

No vehicles turned into the development property during the traffic count. The deli building and parking area was fenced off. Access to the residence was open.

Prince Edward County Traffic Data

County traffic counts are provided below:

COUNTY ROADS	DESCRIPTION	TRAFFIC VOLUME (24h)	POSTED SPEED	Date of Counts
COUNTY ROAD 18	200 metres East of County Rd 12 (Before 11)	2043	60	August 1, 2012
		2966	60	July 31, 2017
COUNTY ROAD 18	100 metres East of Outlet Rd	1370	60	August 1, 2012
		1752	60	July 31, 2017
COUNTY ROAD 11	200 metres North of County Rd 18	2431	60	August 1, 2012
		2686	60	July 31, 2017

County Road 18 at County Road 12 is west of the intersection and would service traffic to the Sandbanks via Bloomfield. It showed the highest traffic volumes as well as the greatest volume increase over the five-year period.

County Road 18 near Outlet Road is on the same stretch of road as the development property, but further east. It has the lowest traffic volumes.

County Road 11 at County Road 18 is to the intersection's north and would service traffic to the Sandbanks via Picton.

Tourist activity across the County has been increasing and is likely to continue doing so into the future. Looking at the highest regional traffic numbers from the

G R E E R
GALLOWAY
CONSULTING
ENGINEERS

1620 Wallbridge Loyalist Road
R.R. #5
Belleville, Ontario
K8N 4Z5

Telephone
(613) 966-3068

Facsimile
(613) 966-3087

E-mail
Belleville@greergalloway.com

County (County Road 18, east of County Road 12), traffic increased from 2012 – 2017 at approximately 8% annually. Applying this trend through 2021 estimates just shy of 4000 vehicles per day.

Following Ontario Good Roads Association procedure for relating shorter duration counts to AADT, if a current AADT of 3996 vehicles is presumed; approximately 30% (1199 vehicles) of that daily volume can be assumed to occur during the 4 hours between 2-6 pm; leaving roughly 300 vehicles (total in both directions) for the peak afternoon hour.

Recall the concept plan shows 16 parking spaces.

Allowing 300 vehicles per hour on County Road 18; split 50/50 directionally; and full turnover of the proposed parking spaces; the intersection was modelled and even under these unlikely conditions, levels of service, volume / capacity ratio, queue lengths and other operational measurables are good.

Entrance Safety

We are not aware of any existing concerns or history of accidents associated with this subject entrance. However, with the addition of the proposed commercial use an appropriate line of sight should be confirmed.

1. *Ministry of Transportation Highway Access Management Guideline*

The MTO Highway Access Management Guideline has been used as a line of sight standard in other instances in the County and is assumed to be the applicable standard in this case.

Stopping sight distance is from the point of view of a motorist travelling on the road. It is the distance that a motorist should be able to see to stop safely. This is the minimum standard that should be met.

Stopping Sight Distance (Table 9)
- Posted speed of 60 km/h (design speed 80 km/h).
- Roughly flat approach grade.
- Distance Required = 130m

The entering sight distance is from the point of view of a motorist waiting to enter or cross the highway. It is the distance a motorist should be able to see to safely enter the road, merge and accelerate to the posted speed without being overtaken by an approaching vehicle.

Entering Sight Distance for 2 Lane Highways (Table 7)
- Commercial access.
- Posted speed of 60 km/h (design speed 80 km/h).
- Roughly flat approach grade.
- Distance Required = 260m

While meeting the entering sight distance standard is desirable, it is not necessarily a requirement. Maximizing the available line of sight to minimize the impact on through traffic while existing traffic accelerates is recommended.

There are existing entrances to the east that to the best of our knowledge have been operating in a safe manner to date. The same can be said for the existing entrance that is to be reconstructed.

Consulting Engineers of Ontario
Professional Engineers Ontario

G R E E R
GALLOWAY
CONSULTING
ENGINEERS

1620 Wallbridge Loyalist Road
R.R. #5
Belleville, Ontario
K8N 4Z5

Telephone
(613) 966-3068

Facsimile
(613) 966-3087

E-mail
Belleville@greergalloway.com

2. Transportation Association of Canada Geometric Design Guide (TAC)

It's noted that similar line of sight line requirements are stated in the TAC Manual and are provided below for additional reference.

Stopping Sight Distance (Table 2.5.2 – Automobiles on level wet pavement)
- Roadway grade = less than 3%, no adjustment required.
- Posted speed of 60 km/h (design speed 80 km/h).
- Distance Required = 130m

Intersection Sight Distance: Right Turn (Table 9.9.6 – Automobile; Grade<3%)
- Distance Required = 145m

Intersection Sight Distance: Left Turn (Table 9.9.4 – Automobile; Grade<3%)
- Distance Required = 170m

Site Observations

A site visit was conducted on Thursday, August 19, 2021.

During the site visit, previous descriptions of existing conditions were confirmed. County Road 18 is straight and flat in both directions.

Sightline Verification

To verify sightlines, measurements were taken from the Prince Edward County GIS viewer which were then paired with images from Google StreetView.

MTO / TAC 60 km/h stopping sight distance is satisfied in both directions (minimum 130m). See attached images showing existing sightlines.

The adjacent municipal intersection (170m) encroaches on the entering sight distance but being a stop-controlled intersection, that is not a concern.

Fire / Emergency Access

Based on Ontario Building Code requirements, an access must be provided for fire department (and emergency vehicle access) that shall:

- Have a clear width not less than 6m.
- Have a centreline radius not less than 12m.
- Have an overhead clearance not less than 5m.
- Have a change of gradient not more than 1 in 12.5 (8%).
- Be designed to support the expected loads imposed by firefighting equipment and be surfaced with concrete, asphalt or other material designed to permit accessibility under all climatic conditions.
- Have turnaround facilities for any dead-end portion of the access route more than 90m long.
- Be connected to a public thoroughfare.

The proposed parking facilities will satisfy these requirements including the following elements of note:

- Entrance and parking isle width will be equal to or greater than 6m.
- Minimum 12m centreline radius is specified for the proposed access and parking layout.
- There will be no overhead obstructions.

G R E E R
GALLOWAY
CONSULTING
ENGINEERS

1620 Wallbridge Loyalist Road
R.R. #5
Belleville, Ontario
K8N 4Z5

Telephone
(613) 966-3068

Facsimile
(613) 966-3087

E-mail
Belleville@greergalloway.com

- The driving surface will be 'flat' with grade to shed surface water.
- A compacted gravel surface constructed in a manner that will provide year-round access if such access is required.
- The access route will be less than 90m long and therefore no turnaround is required.
- Will be connected to County Road 18.

Conclusion

Based on site observations; applicable standards; a lack of previous safety concerns; and our understanding that the proposed development expansion will not significantly affect (and likely reduce) previous traffic activity, we believe the proposed entrance will be acceptable for the proposed motel redevelopment.

If there are any questions or comments, please contact the undersigned.

Yours very truly,
THE GREER GALLOWAY GROUP INC.
CONSULTING ENGINEERS

Matthew McIntosh, P. Eng.
Senior Engineer / Project Manager

Nathan Jianopoulos

Nathan Jianopoulos, EIT

Attachments:
1. Site Visit Photos (x2) August 19, 2021
2. Sightline Photos (x2) from Google StreetView

Consulting Engineers of Ontario
Professional Engineers Ontario

Photo 1: Looking west on County Road 18 from across the road.

Photo 2: Looking east on County Road 18 from across the road.

Photo 3: Looking west from the intersection towards proposed entrance (back ~180m).

Photo 4: Looking east towards the proposed entrance (back ~140m). Note the agriculture access to the right, and Caddy Shack entrance on the left.