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 Fall River, NS B2T 1R2

September 27, 2017

**Mr. Tom Emodi**  
*Principal*  
*TEAL Architects and Planners Inc.*  
 1101-1660 Hollis Street  
 Halifax, NS B3J 1V7

## RE: A Traffic Impact Statement for Civic 202 and 216/218 Cobequid Road

Dear Mr. Emodi:

### 1.0 INTRODUCTION

At the request of *TEAL Architects and Planners Inc.* (TEAL), the GRIFFIN transportation group inc. has carried out a qualitative Stage 1 - Traffic Impact Assessment in support of the planning application process for a proposed mixed-use 4-storey building and adjacent semi-detached residential building to be located on the north side of Cobequid Road, between Glendale Drive and Malik Court, in the community of Lower Sackville, Halifax Regional Municipality (HRM). The proposed development will be comprised of 2 separate buildings, including:

**Table 1: Summary of Development Changes**

Civic	PID	Current	Proposed
#202	PID 00356907	Undeveloped lot Zoning: R-2	A 2-storey Semi-detached Building (residential)
#216/218	PID 00356899	2-storey building Zoning: C-2	4-storey Mixed-use Building (residential & office)

The proposed development is located in the Sackville Land Use By-law area, within HRM's Urban Serviced Area and the site context is generally illustrated in *Figure 1*. Vehicle access to the subject lands will be provided via a south and west driveway. The south driveway will serve the new 4-storey building at civic #216/218 and the west driveway will serve the new semi-detached residential building at civic #202.

Figure 1: Study Area



This letter will focus on the traffic implications related to the proposed development. The qualitative assessment process and the findings of this effort are discussed in the following Sections.

## 2.0 STUDY AREA STREETS

Glendale Drive is generally aligned in a north-south direction through the study area and has been classified by HRM as an arterial street. It has a 4-lane cross-section south of Cobequid Road and a 2-lane cross-section to the north. Additional widening is provided at the signalized intersection in order to provide auxiliary turn lanes. Cobequid Road is generally aligned in an east-west direction and has been classified by HRM as a major collector street. It has a 5-lane cross-section across the frontage of the subject lands and will provide vehicle access to the proposed development. The street-level pictures contained in *Figure 2* provide an overview of the existing site context.

**Figure 2: Site Context**



*Looking east at Cobequid/Glendale intersection*



*Looking west at Cobequid/Malik intersection*

A field review and site visit was carried out on Thursday September 21<sup>st</sup>, 2017. Driver sight lines were observed in the field in the general location of the proposed site access, from the perspective of a driver exiting the subject property onto Cobequid Road. There is approximately 220m of driver sight distance to the east and about 150m to the west. The available turning sight distance (TSD) in the critical direction to the west exceeds the Transportation Association of Canada (TAC) minimum design requirements for a 70 km/h operating speed.

It should also be noted that the subject lands are well served by several Halifax Transit routes moving along Cobequid Road and Glendale Drive. In addition, the Cobequid Road Transit Terminal is in close proximity, located about 700m to the east.

### 3.0 SITE TRIP GENERATION

In order to assess the change in traffic volumes on the study area streets under future conditions, there was a need to determine the number of new vehicles that would be entering and exiting the proposed development. This is referred to as the trip generation calculation process. Typically, traffic engineers use trip generation rates published by the Institute of Transportation Engineers (ITE) to forecast site-generated volumes for specific land use types, if deemed appropriate.

The trip generation calculation process was based on the development information provided by TEAL. This included a site plan as shown in *Figure 3*. Based on our review of the land use types being proposed it was determined that the ITE trip generation rates for the residential and general office space were appropriate. As such, ITE's *Trip Generation, 9<sup>th</sup> Edition* document was used to calculate the forecast site-generated trips for the site and these are summarized in *Table 2*.

The proposed development is expected to include 2 residential semi-detached units, 36 residential apartment units (plus associated amenities such as a gym and common room to be used only by residents) and 3,090 ft<sup>2</sup> of general office space.

**Figure 3: Proposed Development**



Source: TEAL Architects and Planners



Based on information gathered during the field review it was observed that traffic currently moves in and out of the site driveway, traffic that is associated with the existing building containing some apartments and an office space. Although a trip generation survey of this existing building was not conducted as part of this qualitative review, it is understood that the same business will occupy the new space and thus the vehicle trip generation associated with the office space is not expected to change. To more accurately identify the new/additional vehicle trips on the study area streets these existing trips must also be accounted for in the trip generation calculation process. As such, these existing trips have been subtracted from the new trips calculated for the proposed development. This is summarized in *Table 2* below.

**Table 2: Net New Site Trip Generation for the Proposed Development**

	Size	Trip Rate <sup>A</sup>	Vehicle Trips / Hour		
			In	Out	Total
AM Peak Hour					
Residential Semi-detached (LUC 210)	2 units	0.75/unit	0 (25%)	2 (75%)	2
Residential Apartment (LUC 220)	36 units	0.51/unit	4 (20%)	14 (80%)	18
General Office Space (LUC 710)	3,090 ft²	1.56/1,000ft²	4 (88%)	1 (12%)	5
Less Existing Office Trips			-4	-1	-5
Net New AM Peak Trips			4	16	20
PM Peak Hour					
Residential Semi-detached (LUC 210)	2 units	1.00/unit	1 (63%)	1 (37%)	2
Residential Apartment (LUC 220)	36 units	0.62/unit	14 (65%)	8 (35%)	22
General Office Space (LUC 710)	3,090 ft²	1.49/1,000ft²	1 (17%)	4 (83%)	5
Less Existing Office Trips			-1	-4	-5
Net New PM Peak Trips			15	9	24

*A – The ITE published average rate was used for each land use.*

In summary, the proposed development is expected to generate 20 net new trips/hour (4 inbound and 16 outbound) during the weekday morning peak period and 24 net new trips/hour (15 inbound and 9 outbound) during the weekday afternoon peak period.

#### 4.0 QUALITATIVE TRAFFIC OPERATIONAL ASSESSMENT

The increase in traffic volumes associated with the proposed development generally equates to about one new vehicle added to the road system every three minutes during peak times of the day. Due to the close proximity of the proposed development to the Cobequid Road / Glendale Drive intersection the site-generated trips will likely be further divided among these two major travel corridors. As such, the increase in traffic on the study area roads and intersections is expected to be marginal and considered low. The typical volume fluctuation experienced on both

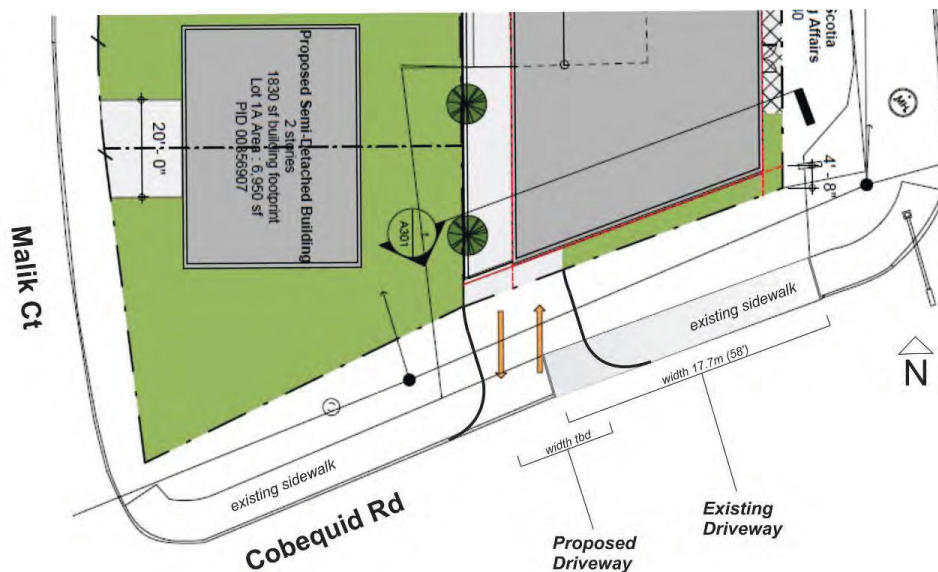
Cobequid Road and Glendale Drive from one day to the next will exceed the number of new trips generated by the proposed development.

The existing lane configuration on Cobequid Road in the vicinity of the proposed site access currently provides an exclusive eastbound left turn lane as well as two through lanes in the westbound direction. Qualitatively, it appears there is sufficient road capacity to accommodate slowing and turning vehicles entering the proposed development. Vehicles exiting the proposed development will benefit from the two adjacent traffic signals at Glendale Drive and Freer-Zinc Avenue which will provide gaps in the Cobequid Road traffic stream.

## 5.0 COBEQUID ROAD SITE ACCESS

Currently, vehicles enter/exit the site using a wide and open driveway opening on the south side of the property, connecting to Cobequid Road. There is very little corner clearance between the existing access and the Cobequid Road / Glendale Drive signalized intersection. The current driveway has an opening that measures about 17.7m (58') wide which promotes high speed, low angle turns and provides very little positive guidance to drivers using the driveway. *Figure 5* below shows the existing access relative to the proposed south access.

**Figure 5: Changes to the Site Access**



As shown in *Figure 5*, the proposed driveway connecting to Cobequid Road will offer the following operational improvements:

- Provides a much narrower throat width and this design will result in lower and more consistent turning speeds relative to current conditions. In addition, this design will reduce the likelihood of low angle vehicle entry/exits to Cobequid Road – vehicle movements that increase road safety risks.
- Noticeably increases the corner clearance between the access and the signalized intersection. Relative to current conditions, the proposed location will reduce the likelihood of operational issues on Cobequid Road associated with slowing and turning vehicles.

## 6.0 FINDINGS & CONCLUSIONS

The following conclusions were gleaned from the qualitative traffic impact assessment of the proposed development:

- The existing building on site contains some apartment units and an office space. The existing vehicle access connects to Cobequid Road. It is understood that the existing business will also be located within the newly proposed office space.
- The new site-generated vehicle trips associated with the proposed development were calculated using industry best practices. The proposed development is expected to generate 20 net new trips/hour (4 inbound and 16 outbound) during the weekday morning peak period and 24 net new trips/hour (15 inbound and 9 outbound) during the weekday afternoon peak period.
- The increase in traffic volumes associated with the proposed development generally equates to about one new vehicle trip added to the road system every three minutes during peak times of the day. This increase is expected to be marginal and considered low. In addition, the eastbound left turn auxiliary lane and two westbound lanes that exist on Cobequid Road are expected to provide sufficient capacity for entering/exiting site-generated trips.
- The proposed south vehicle access will connect to Cobequid Road and improve upon the current access by reducing its excessive width and improve the corner clearance by shifting further west away from the signalized intersection.

In summary, the proposed mixed-use development is expected to have a negligible and acceptable level of impact on the traffic operating conditions along Cobequid Road, Glendale Drive and Malik Court.

It is recommended that the design of the new vehicle accesses follow HRM and Transportation Association of Canada (TAC) guidelines and meet all relevant By-law requirements. The south access must accommodate an appropriate design vehicle such as a garbage truck, delivery truck, etc. All signs and pavement markings should be consistent with TAC's Manual of Uniform Traffic Control Devices for Canada (MUTCDC). I would be happy to provide you with additional information or clarification regarding these matters and can be reached anytime by phone at (902) 266-9436 or by email at [jcopeland@griffininc.ca](mailto:jcopeland@griffininc.ca).

Sincerely,

**Original Signed**

**James J. Copeland, P.Eng.**  
*Managing Principal – Traffic & Road Safety Engineer*  
*GRIFFIN transportation group inc.*

