August 8, 2024

Zzap Architecture and Planning
1 Canal Street
Dartmouth, NS
Attention: Chris Markides, MCIP, LPP Urban Planner

RE: 229 Beaver Bank Road – Traffic Impact Statement

DesignPoint Engineering & Surveying Ltd. is pleased to submit this traffic impact statement for a residential development project at 229 Beaver Bank Road. This project adds 17 townhouse condo units to an existing lot with a single-family dwelling.

Site Location

The site is located at 229 Beaver Bank Road, approximately 200 m north of Stokil Drive. The property lies on the former alignment of Beaver Bank Road. A shared driveway serves the existing single-family dwelling.

Figure 1: Location of the proposed development

Beaver Bank Road

Beaver Bank Road is a two-lane arterial roadway with a posted speed limit of 50 km/h at this location. A concrete sidewalk runs along the east side of the street. There is a transit stop near Averys Farm Market that is served by Route 86.

Site Description

The proposed development involves adding 17 residential units to the existing single-family property. A new private access will be constructed to connect the units to the existing shared driveway off Beaver Bank Road.

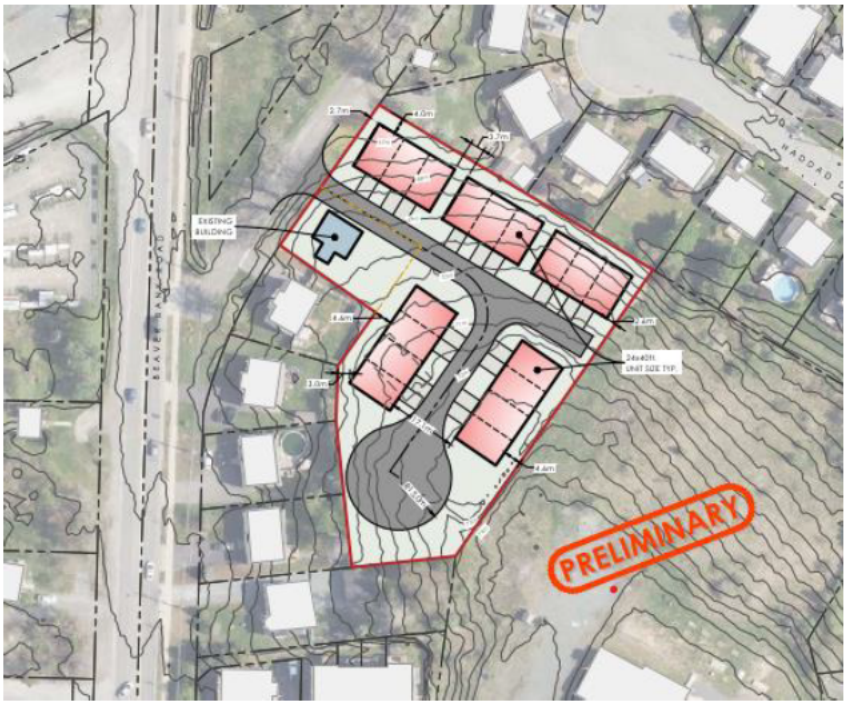

Figure 2: Proposed Site Plan (Prepared by Zzap)

There are no changes planned to the existing shared driveway onto Beaver Bank Road.

Trip Generation

Site generated trips have been estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 11th edition. The land use code for detached single-family homes has been used for all proposed units. The expected traffic volumes for the existing single-family home has been included in the estimated trip generation. The development is expected to generate seventeen (17) two-way trips during the AM peak hour and twenty (20) two-way trips during the PM peak hour.

Land Use	Land Use Code	Units	Trip Generation Rates[1]						Trips Generated			
			AM Peak			PM Peak			AM Peak		PM Peak	
			Rate	In	Out	Rate	In	Out	In	Out	In	Out
Single-Family Detached Housing	210	17	0.99	0.27	0.63	1.12	0.63	0.37	5	11	12	7
Single-Family Detached Housing [2]	210	1	1.00	0.00	1.00	1.00	1.00	0.00	0	1	1	0
Estimated Site Generated Trips									**5**	**12**	**13**	**7**
Notes:	1. Trip generation rates from ITE *Trip Generation Manual*, 11th Edition. (Fitted Curve) 2. Existing Home											

Table 1: Trip generation calculations per ITE Trip Generation Manual, 11th edition.

Access

The seventeen (17) residential units will share a single driveway. The driveway will be in the existing driveways general location, approximately 200 metres north of Stokil Drive. A site visit was completed to confirm stopping sight distances.

Figure 3 View from Access Location to the North

Figure 4- View from Access Location to South

The critical sight distance for low volume driveways is stopping sight distance. Stopping sight distance is the distance travelled during the perception and reaction time and the braking distance. Minimum stopping sight distances are defined by the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads. A summary of the minimum stopping sight distances (based on level roadway) and measured stopping sight distances for the access location is provided in Table 2. The access location exceeds the minimum stopping sight distance for a 60 km/h design speed in each direction.

Table 2- Summary of stopping sight distances for the proposed access

Direction of Travel	Minimum Stopping Sight Distance (m)	Measured Stopping Sight Distance (m)	Result
From the North	85	250 +	Pass
From the South	85	160 +	Pass

Summary and Conclusions

The proposed development adds 17 single family residential units to a single-family home parcel of land. The proposed access will effectively remain in its current location on Beaver Bank Road, approximately 200 metres north of Stokil Drive.

The stopping sight distances for the access location exceed the minimum requirements in both directions of travel. The development is expected to add seventeen (17) vehicle trips to Beaver Bank Road during the AM Peak hour, and twenty (20) vehicle trips during the PM peak hour.

The traffic added by this development will have a negligible impact on the traffic operations of the surrounding street network. Neither the additional traffic nor the access location creates safety concerns.

No upgrades to Beaver Bank Road or the proposed access needed to accommodate the proposed development are required.

If you have any questions about this traffic impact statement, please contact me at paul.burgess@designpoint.ca.

Thank you,
DesignPoint Engineering & Surveying Ltd.

Paul Burgess, M.Eng, P.Eng..
Senior Transportation Engineer