

July 12<sup>th</sup>, 2022

**13203891 Canada Limited**  
34 David Street  
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Attn: Marius Ardelean

**RE: Breeze Living Development (PID 40023905) – Hubbards, NS**  
DesignPoint Project #: 22-008

## Introduction

DesignPoint Engineering & Surveying has been hired to complete a traffic impact statement for a proposed residential development on Conrads Road, Hubbards. The concept plan includes 13 multi-family buildings with a total of 52 residential units (four units per building).



Figure 1: Location of PID 40023905 on Conrads Road



Figure 2: Concept Plan



## Existing Conditions

Conrads Road is a two-way rural road with a speed limit of 50 km/h. The road is not built to current standards and is primarily used for access to residential properties, many of which are expected to be seasonal and limited through traffic. There is no traffic volume data within the provincial traffic count database, but volumes are expected to be very low. Speed data has not been collected, but traffic speeds are also expected to be relatively low and estimated between 30-40 km/h due to the horizontal and vertical curvature of the road at multiple locations.

## Site Access

A new private road will service all residential units. The access is located on the outside of a reverse curve and a slope. A site visit was conducted to measure site distances for the approximate location of the proposed road. The access location may be adjusted to improve sightlines, if possible, during detailed design.



Figure 3: View from the proposed access to the east



Figure 4: View from the proposed access to the west



Figure 5: Approaching the proposed access from the east



Figure 6: Approaching the proposed access from the west

Table 1 includes TAC minimum stopping sight distances (SSD) for a design speed between 30-50 km/h and the measured stopping sight distance from each direction of travel.

Table 1: TAC minimum stopping sight distances at the proposed access location

| Design Speed (km/h) | Direction of Travel | Grade (%) | TAC Minimum SSD (m) | Measured SSD (m) | Result |
|---------------------|---------------------|-----------|---------------------|------------------|--------|
| 50                  | From the East       | +9        | 58                  | 70               | Pass   |
|                     | From the West       | -9        | 74                  | 45               | Fail   |
| 40                  | From the East       | +9        | 43                  | 70               | Pass   |
|                     | From the West       | -9        | 53                  | 45               | Fail   |
| 30                  | From the East       | +9        | 29                  | 70               | Pass   |
|                     | From the West       | -9        | 35                  | 45               | Pass   |

The measured sight distance from the east met the Transportation Association of Canada (TAC) minimum stopping sight distances as provided in the *Geometric Design Guide for Canadian Roads* for a design speed of 50 km/h. The measured sight distance from the west meets the minimum SSD for 30 km/h only.

### Site Generated Traffic

Site-generated traffic volume estimates have been completed using the trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11<sup>th</sup> Edition*. The developed 52 units are estimated to add 25 two-way trips to Conrads Road during the AM peak hour and 29 two-way trips during the PM peak hour.

Table 2: Trip Generation Estimates

| Land Use                                    | Units | Trip Generation Rates <sup>1</sup>   |      |      |         |      |      | Trips Generated |           |           |           |
|---|-------|--|------|------|---------|------|------|-----------------|-----------|-----------|-----------|
|   |       | AM Peak  |      |      | PM Peak |      |      | AM Peak         |           | PM Peak   |           |
|   |       | Rate   | In   | Out  | Rate    | In   | Out  | In              | Out       | In        | Out       |
| Multifamily (Low-Rise) (Code 220)           | 52    | 0.47   | 0.24 | 0.76 | 0.57    | 0.62 | 0.38 | 6               | 19        | 18        | 11        |
| <b>Total Estimated Site Generated Trips</b> |       |  |      |      |         |      |      | <b>6</b>        | <b>19</b> | <b>18</b> | <b>11</b> |
| Notes:                                      |       | 1. Trip generation estimates from ITE Trip Generation Manual, 11th Edition |      |      |         |      |      |                 |           |           |           |

### Recommendation

Advanced warning signage should be considered for the eastbound approach to the beginning of the curve, warning drivers that they are approaching a reverse curve and should slow their speed to 25 km/h. A WA-4L (reverse sharp curve) and WA-7S (Advisory Speed) could be added to the utility pole approximately 50 m before the beginning of the curve.





*Figure 7: Proposed warning signs on the eastbound approach to the curve*

## Conclusion

The proposed concept plan proposes the development of 52 multi-family units (13 buildings each with 4 units) on Conrads Road (PID 40023905). The number of vehicle trips added by this development to Conrads Rd is minimal and is not expected to have any operational or safety impacts on the surrounding road network.

The TAC minimum stopping sight distance from the east for a 50 km/h design speed is achieved. The minimum stopping sight distance from the west is met for a 30 km/h design speed. Warning signage from the west should be added in advance of the reverse curve, where this new access and existing access are located, to advise drivers that they are approaching a curve and should slow their speed.

If you have any questions or comments, please contact me by email at [Harrison.mcgrath@designpoint.ca](mailto:Harrison.mcgrath@designpoint.ca) or telephone at 902.223.3500.

Thank you,  
**DesignPoint Engineering & Surveying Ltd.**



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