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January 22, 2020

Reference No. 202005

Cesar Saleh
WM Fares Architects
3480 Joseph Howe Drive, Suite 500
Halifax, NS B3L 4H7

Re: Hanwell Drive, Middle Sackville, NS – Traffic Impact Statement

Mr. Saleh,

Harbourside Transportation Consultants has completed a traffic impact statement, as per Halifax Regional Municipality (HRM) requirements, to support the development application for a residential development on Hanwell Drive in Middle Sackville, Nova Scotia.

Site Context: The development site is located on the corner of Hanwell Drive and Swindon Drive in Middle Sackville, Nova Scotia (Figure 1). Hanwell Drive and Swindon Drive are local roadways. Hanwell Drive is a north-south residential roadway with a two-lane cross section and sidewalk on one side of the roadway (Figure 2). Swindon Drive is an east-west connector roadway between Hanwell Drive and Margeson Drive. Swindon has a three-lane cross section with two westbound lanes (towards Margeson Drive) and one eastbound lane (Figure 3). There are no sidewalks on Swindon Drive.

Margeson Drive is a north-south arterial roadway which connects Highway 101 to Nova Scotia Trunk 1 (Sackville Drive). Margeson Drive has a two-lane cross section with additional left or right turn lanes at major intersections (Figure 4). Margeson Drive has posted speed limit of 80 km/h. There are no active transportation facilities along Margeson Drive.

The area is serviced by Halifax Transit Route 83 Springfield and Route 183 Springfield Express. The routes provide service to the Sackville Terminal (connections to 10 other routes), the Burnside Industrial Park and Downtown Halifax. Bus stops are located on Hanwell Drive along the frontage of the site. In addition, Halifax Transit has plans to develop a Park and Ride on Margeson Drive south of Highway 101.



Figure 1: Site Context



Figure 2: Hanwell Drive



Figure 3: Swindon Drive



Figure 4: Margeson Drive



Proposed Development: The proposed development plan includes a mid-rise residential building with 54 units (Figure 5). The development will include 67 parking spaces (15 exterior and 52 interior).

Access: Access to the proposed development will include two driveways on Swindon Drive. The main building entrance and exterior parking lot will be accessed from one driveway and the interior parking will be accessed from the other driveway.

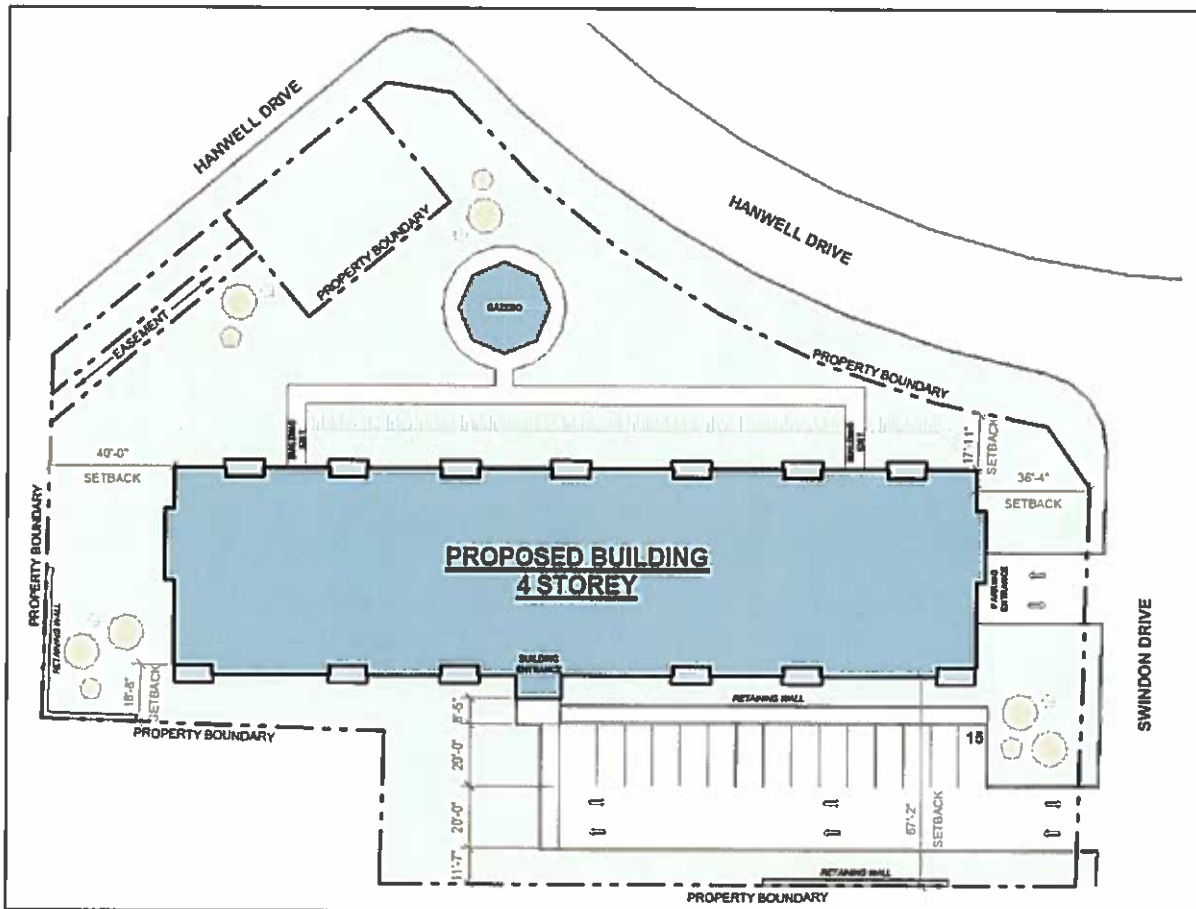


Figure 5: Site Development Plan

Sight Distance: The sight distance at the proposed accesses were reviewed to ensure the required sight distance is available. The HRM *Municipal Design Guidelines* (2013) specifies that the minimum stopping sight distance and minimum turning sight distance should meet the requirements of the Transportation Association of Canada's (TAC) *Geometric Design Guide for Canadian Roads*.

The following sight distance requirements are specified for a design speed of 50 km/h:

- Minimum stopping sight distance = 65 metres
- Minimum turning sight distance – left-turn from stop = 105 metres
- Minimum turning sight distance – right-turn from stop = 95 metres



There is less than 80 metres on Swindon Drive between the intersections with Margeson Drive and Hanwell Drive. The sight distance requirements cannot be met due to the length of the roadway. The intersections are clearly visible from the approximate driveway locations.

Trip Generation: The vehicle trip generation estimates for the development were quantified using trip generation rates from the 10th edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The weekday morning (AM) and afternoon (PM) peak hour trip generation estimates for the proposed development are summarized in Table 1. On a typical weekday, the proposed development is expected to generate 19 vehicle trips in the morning peak hour (5 trips entering/14 trips exiting) and 24 vehicle trips in the afternoon peak hour (15 trips entering/9 trips exiting).

Table 1: Trip Generation Estimates

| ITE Land Use Code | Units | Trip Generation Rates ¹ | | | | | | Trips Generated ² | | | | | |
|--------------------------------------|-------|------------------------------------|-----|-----|--------------|-----|-----|------------------------------|----------|-----------|--------------|-----------|----------|
| | | AM Peak Hour | | | PM Peak Hour | | | AM Peak Hour | | | PM Peak Hour | | |
| | | Rate | In | Out | Rate | In | Out | Total | In | Out | Total | In | Out |
| 221 - Multifamily Housing (Mid-Rise) | 54 | 0.36 | 26% | 74% | 0.44 | 61% | 39% | 19 | 5 | 14 | 24 | 15 | 9 |
| Total Trips Generated | | | | | | | | 19 | 5 | 14 | 24 | 15 | 9 |

1. Trip generation rates are in 'vehicles per hour per unit.'
2. Trips generated are in 'vehicles per hour.'

Impact to Surrounding Roadways: The majority of site generated vehicle traffic will travel along Margeson Drive. The peak-direction of traffic on Margeson Drive is southbound during the morning peak hour (travelling towards Highway 101) and northbound during the afternoon peak hour.

The trip generation estimates indicate that the proposed development will generate less than 15 vehicle trips in the peak direction of traffic on Margeson Drive during the peak hours. It is anticipated that the new vehicle trips associated with the proposed development will result in a negligible increase in traffic volumes on Margeson Drive and can be accommodated with a negligible impact on traffic operations. It should be noted that this consists of a high-level qualitative assessment, therefore no analytical capacity calculations have been completed to support the assessment.

If you have any questions or additional discussion, please feel free to contact the undersigned.

Regards,



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