



Steeple Lake Estates Traffic Impact Statement

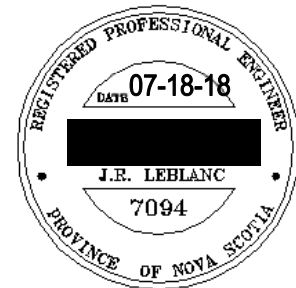
July 2018

Prepared for
Servant Dunbrack McKenzie & MacDonald Ltd

JRL consulting

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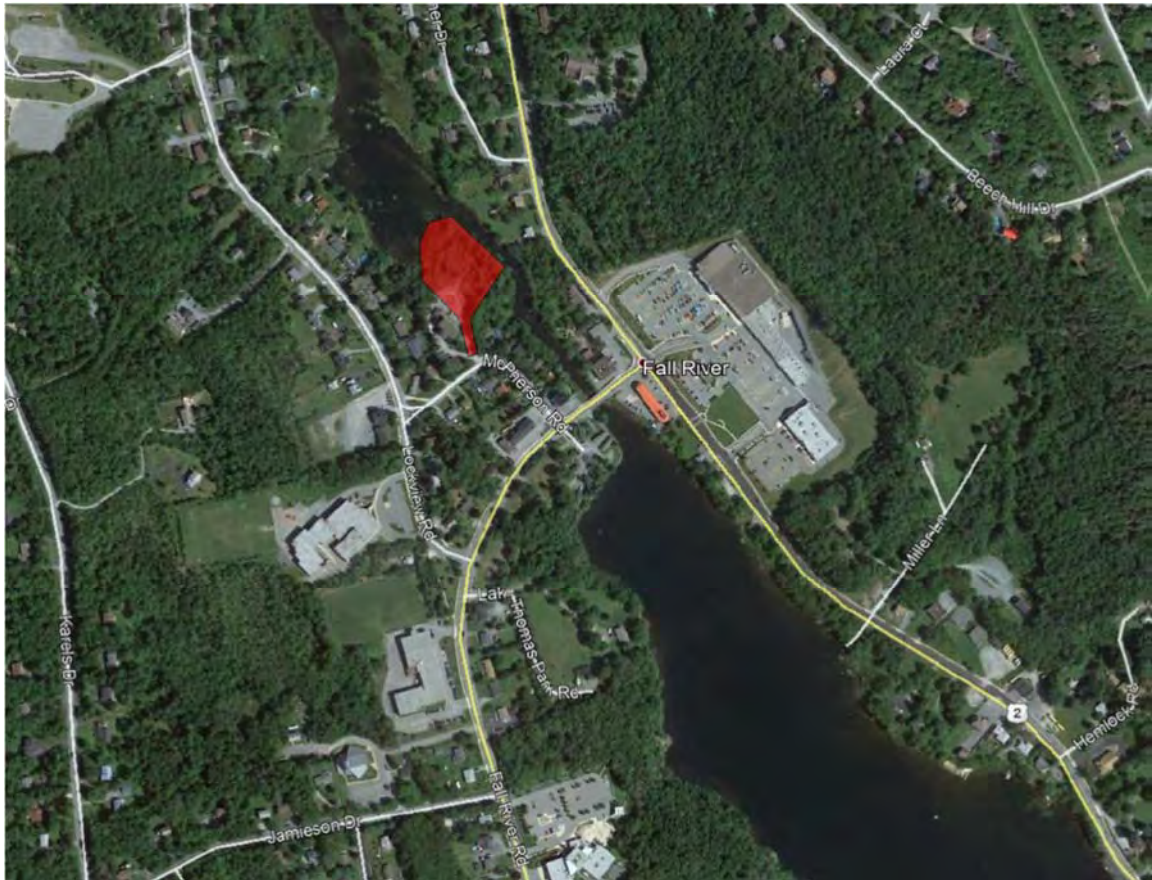
Jeff R. LeBlanc, P.Eng., PMP

1 Introduction

1.1 Background

KWR Approvals Inc. and Servant Dunbrack McKenzie & MacDonald Ltd., on behalf of the owner, are working on a proposal to develop a property located off McPherson Road in Fall River, Nova Scotia. The proposed development is called Steeple Lake Estates and Exhibit 1.1 shows the site in red in the context of the surrounding area.

Exhibit 1.1 – Steeple Lake Estates in Fall River, Nova Scotia

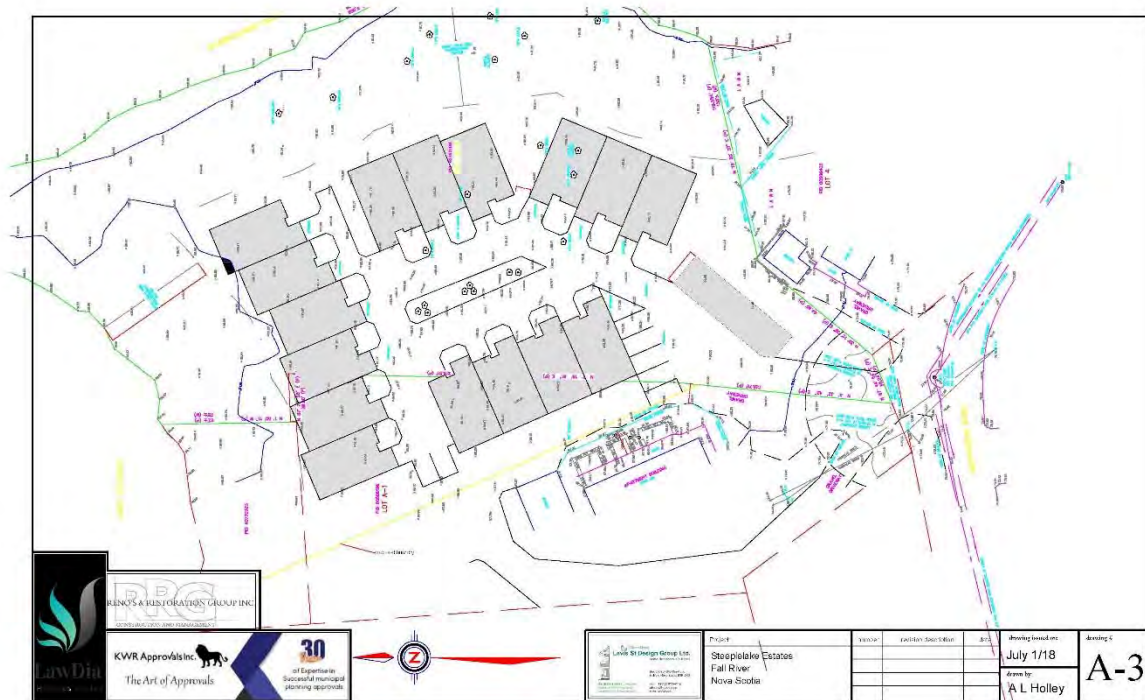


Source: Google Earth

The proposed development will consist of 16 townhouses and it will share an existing driveway from McPherson Road that currently serves a 25-unit apartment building.

Refer to the following Exhibit 1.2 for a proposed site plan for Steeple Lake Estates.

Exhibit 1.2 – Steeple Lake Estates Proposed Site Plan



JRL consulting inc. was retained by SDMM and KWR Approvals Inc to prepare a Traffic Impact Statement (TIS) to assess the potential traffic impacts of the proposed development of Steeple Lake Estates in Fall River, Nova Scotia.

The purpose of a Traffic Impact Statement is to provide a high level overview of a proposed development including estimates of site-generated traffic along with an initial review of existing traffic counts in the general area of the proposed development. This information will form part of the initial application to HRM which will be reviewed by staff and council. We are pleased to submit this report which summarizes our findings and provides the information required by HRM for review.

2 Existing Traffic Conditions

2.1 Description

The principal routes affected by this development are McPherson Road and Fall River Road. Exhibit 2.1 summarizes HRM's Characteristics of Street Classes from HRM's Municipal Service Systems Design Guidelines.

Exhibit 2.1 - HRM Characteristics of Street Classes

Characteristic	Arterial Street	Major Collector	Minor Collector	Local Industrial	Local Street
1. Traffic Service Function	First Consideration	Traffic movement primary consideration, land access secondary consideration, some parking	Traffic movement of equal importance with land access, parking permitted	Traffic movement secondary consideration with land access primary consideration, parking permitted	Traffic movement secondary consideration with land access primary consideration, parking permitted
2. Land Access Function	Limited Access with no parking				
3. Range of design traffic average daily volume	More than 20,000	12,000 to 20,000 or more	Up to 12,000	Less than 3,000	Less than 3,000
4. Characteristics of traffic flow	Uninterrupted flow except at signals; w/ pedestrian overpass	Uninterrupted flow except at signals and crosswalks	Interrupted flow	Interrupted flow	Interrupted flow
5. Average running speed in off-peak conditions	50-70 km/hr	40-60 km/hr	30-50 km/hr	15-30 km/hr	15-30 km/hr
6. Vehicle types	All types	All types but trucks may be limited	All types with truck limitation	All types	Passenger and service vehicles, transit buses; large vehicles restricted
7. Connects to	Expressways, arterials, major collectors, minor collectors	Expressways, arterials, major collectors, minor collectors, some locals	Arterials, major collectors, minor collectors, locals	Some major collectors, minor collectors, locals	Some major collectors, minor collectors, locals

McPherson Road is a short local road (~225 m) that that connects Lockview Road and Fall River Road. It provides access to residential homes and some commercial business near Fall River Road. There is a graveled shoulder on its eastern/northern side and graveled shoulder with open drainage ditch for stormwater on its western/southern side. We didn't observe any posted speed limit signage but the road is identified as a Traffic Calmed Neighborhood with signage and speed bumps.

Fall River Road is a major collector that runs from Windsor Junction Road to Nova Scotia Highway Trunk 2. It is a key route in Fall River provide access to residential developments, schools and commercial land uses. There is a concrete sidewalk on its northern side that runs from much of its length from Trunk 2 to Richardson Drive. The posted speed limit is 60 km/hr)

Refer to Exhibit 2.2 for photos of the Study Area around Woodland Avenue and Lancaster Drive.

Exhibit 2.2 – Study Area Photos



McPherson Road looking north to proposed entrance to Steeple Lake Estates



Existing entrance to 25-Unit Apartment Building



Existing entrance to 25-Unit Apartment Building looking at McPherson Road



McPherson Road looking west towards Lockview Road at Existing Driveway



McPherson Road looking south at Existing Driveway



McPherson Road is a Traffic Calmed Neighbourhood



Southern end of McPherson Road at Fall River Road



Fall River Road at McPherson Road looking towards Trunk 2



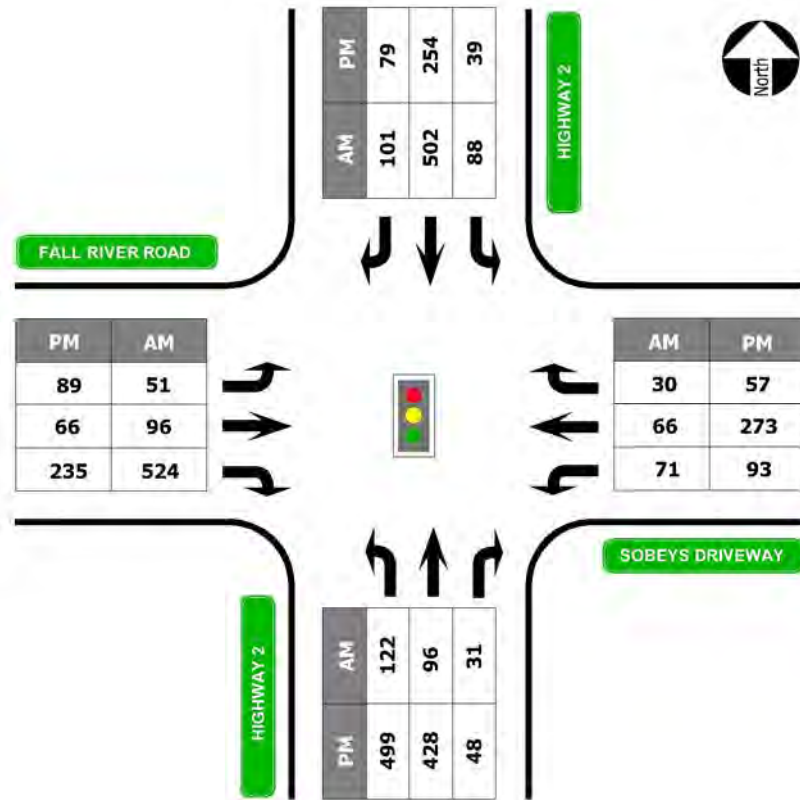
McPherson Road at Lockview Road

2.2 Existing Traffic Volumes

We completed a site review on July 7, 2018.

HRM completed turning movement counts at the Highway 2/Fall River Road/Sobeys Driveway intersection in June 2017. We applied an annual background growth rate of 2% to estimate traffic in 2018 as summarized in Exhibit 2.3

Exhibit 2.3 – Highway 2/Fall River Road/Sobeys Driveway Estimated Existing Traffic 2018



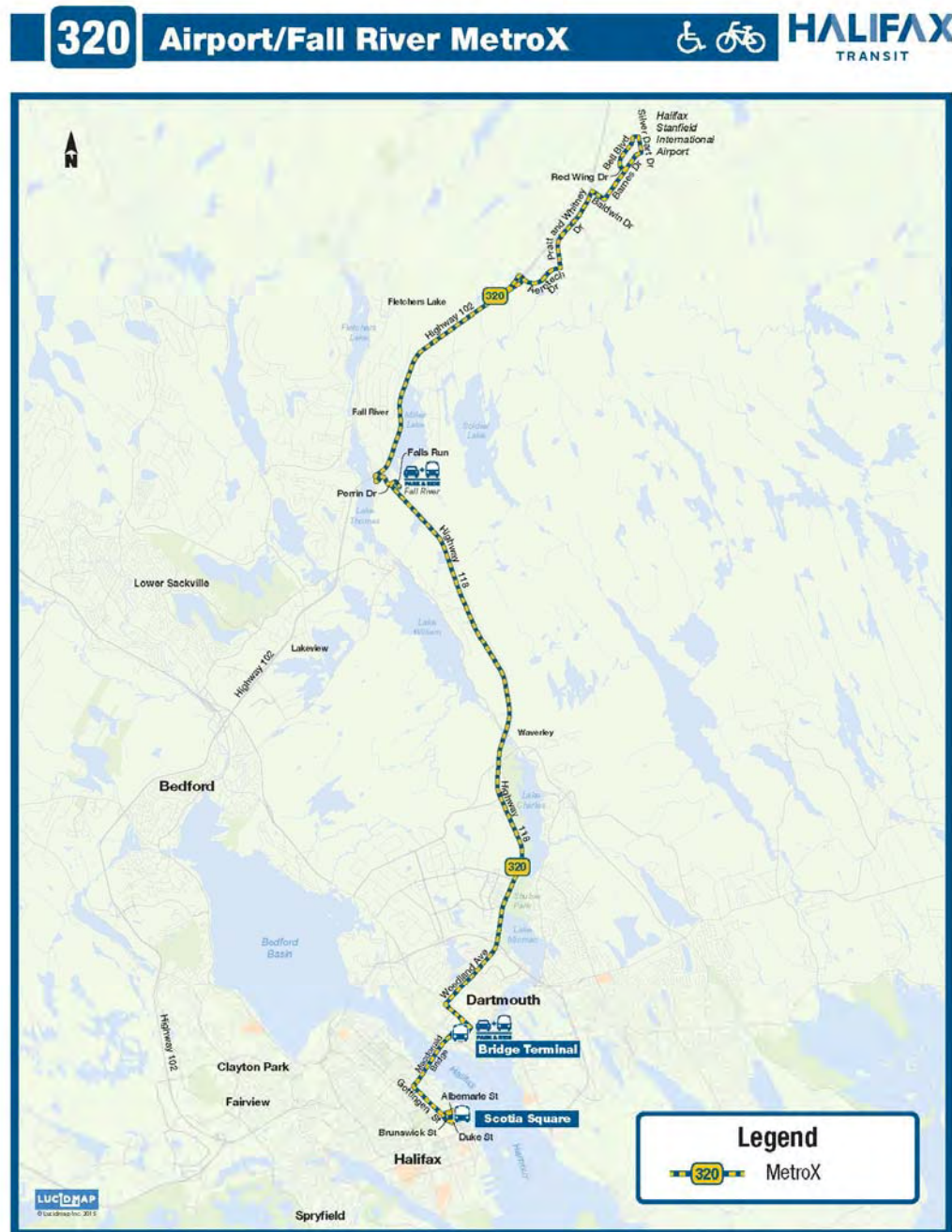
2.3 Trip Distribution

HRM counts at the Highway 2/Fall River Road/Sobeys Driveway intersection provide an indication of trip distribution in the area and we expect that traffic generated by the proposed Steeple Lake Estates development will follow the same patterns.

2.4 Transit and Pedestrians

There is no Halifax Transit service near the proposed development but there is a MetroX Route 320 that runs from the airport to Dartmouth and Halifax that includes a stop at the Fall River Park and Ride located off Perrin Drive near Exit 14 of Highway 118. There is a concrete sidewalk on the northern side of Fall River Road near McPherson Road

Exhibit 2.4 – Halifax Transit Route 320 Airport/Fall River MetroX



2.5 Stopping Site Distance

As per the Transportation of Canada Geometric Design Guide for Canadian Roads, adequate stopping site distance *"is essential for safe operation that the vehicle operator be able to see far enough ahead to stop if necessary. Conditions that would force a vehicle operator to stop are for example, an object on the roadway, a culvert washout or other fault in the roadway.*

Adequate stopping site distance is required throughout the length of the roadway. Minimum stopping site distance is the sum of two distances namely:

- *Brake reaction distance*

The distance travelled during the brake reaction time, that is the time that elapses from the instant an object, for which the driver decides to stop, comes into view to the instant the driver takes remedial action (contacts brake pedal).

- *Braking distance*

The distance travelled from the time that braking begins to the time the vehicle comes to a stop."

For a design speed of 40 km/h, the minimum stopping site distance is 45 m.

McPherson Road is a short local road that is designated as a Traffic Calmed Neighbourhood with signage and speed bumps so we do not expect actual speed to exceed 40 km/hr.

The proposed shared driveway is on a curve and there is vegetation that may be encroaching the right of way, however, our visual inspection didn't identify any concerns with adequate stopping site distance on this local road with a maximum speed of 40 km/hr. We did not complete a detailed survey to assess Stopping Site Distance.

3 Site Generated Traffic

3.1 Trip Generation

The proposed development will have 16 townhouses accessed from a shared driveway on McPherson Road.

We completed trip generation estimates using equations provided in Institute for Transportation Engineer's Trip Generation Manual Ninth Edition. We used the following ITE Land Use Codes to assess site generated trips:

- ITE Land Use 230 Residential Condominium/Townhouse

"Residential condominiums/townhouses are defined as ownership units that have at least one other owned unit within the same building structure." The unit of measurement for average vehicle trip ends is dwelling units.

Exhibit 3.1 – Estimated Site Generated Traffic Volumes for Steeple Lake Estates

LAND USE	QUANTITY	AM PEAK			PM PEAK		
		TOTAL	ENTER	EXIT	TOTAL	ENTER	EXIT
Townhouse (ITE Land Use 230)	16	12	17%	83%	13	67%	33%
			2	10		9	4
TOTAL		12	2	10	13	9	4

4 Conclusions and Recommendations

- This Traffic Impact Statement has provided a high level overview of the proposed Steeple Lake Estates development in Fall River, Nova Scotia that will include 16 townhouses
- It includes an estimate of new site generated trips and an analysis of existing traffic volumes in the surrounding area.
- Based on ITE Trip Generation Rates, we estimate that the proposed development (16 townhouse units) will generate 12 new vehicle trips in the AM Peak Hour and 13 new vehicles in the PM Peak Hour.
- Site generated traffic will most likely follow existing trip distribution patterns along McPherson Road and Fall River Road in the AM and PM peak hours.
- We recommend that existing vegetation that encroaches on the right of way on McPherson Road be removed to ensure clear visibility from the proposed shared driveway.
- We have not identified any potential significant impacts to the existing transportation network in Fall River as a result of this proposed development.