

TECHNICAL MEMO

DATE: July 26, 2019
PROJECT NO: 04-19-0262
PROJECT: 1048 Tillicum Road
SUBJECT: Access Review

TO: Andrew Mills – Owner/Developer

PREPARED BY: Caitlyn Quach, Co-op Student

REVIEWED BY: Tyler Thomson, MCIP RPP PTP – Associate & Transportation Planner



1. INTRODUCTION

This technical memo addresses the Esquimalt Advisory Planning Commission's request for a review of traffic management (specifically regarding the northbound left turn into the site from Tillicum Road) for the proposed re-development of 1048 Tillicum Road prepared by Zebra Design. Currently this lot is occupied by a duplex, with a proposed redevelopment for 5 townhouses in two buildings.

2. EXISTING CONDITIONS

A Duplex currently occupies 1048 Tillicum Road which is presently a residential two-family lot located just west of the intersection of Tillicum Road and McNaughton Avenue. Tillicum Road is a four lane arterial road with crosswalks on both sides while McNaughton Avenue is a local residential road with no sidewalks. The site is located in front of a key vehicle and cycling route and with nearby access to Gorge Park. Additionally, the site is well served by transit. Bus route 26 has stops in both directions located approximately 100m from the site while bus routes 8, 9, 11, and 14 are also located within a walking distance of approximately 400m.

Existing traffic volume data was collected during the PM peak hour on Wednesday July 25, 2019 from approximately 3pm to 4pm which is summarized in **Figure 2.1**. This was determined to be the overall peak hour on the road network based on traffic count information from the CRD.

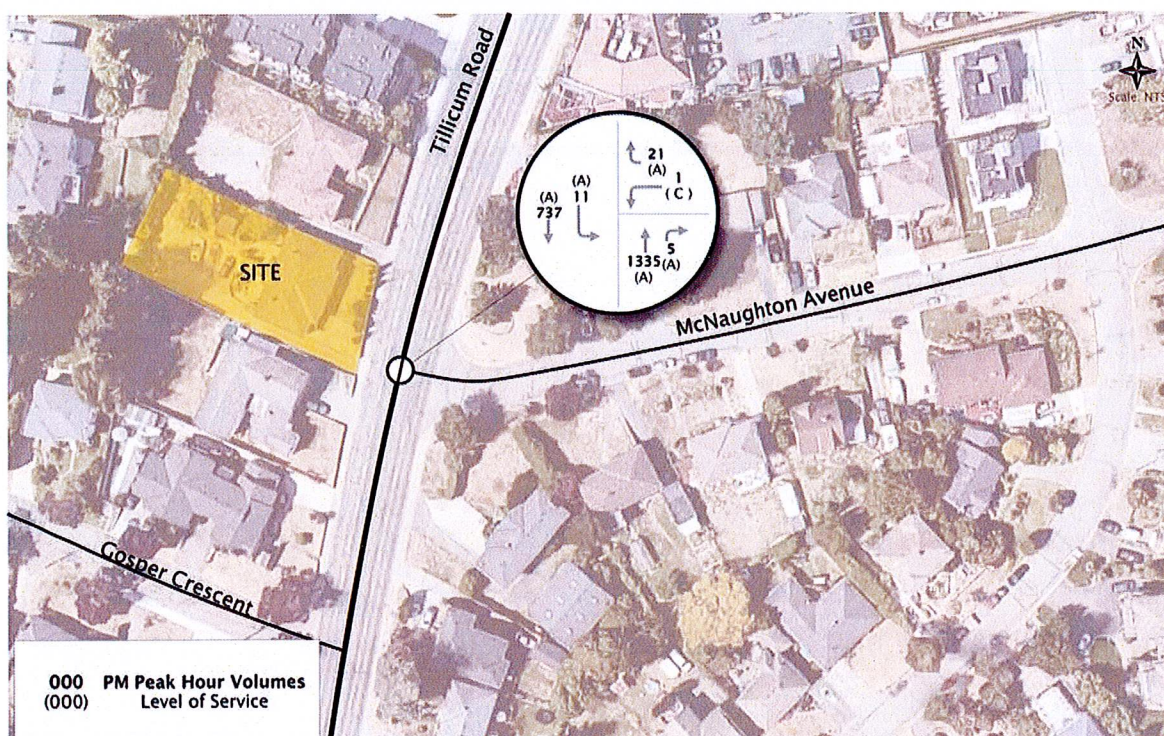


Figure 2.1: Existing Traffic Volumes and Level of Service

As shown, given the free flow of traffic on Tillicum, there are no significant delays to report based on existing PM peak hour traffic volumes.

3. DEVELOPMENT PLAN

Zebra Design has proposed on behalf of the owner/developer a re-zoning of the existing two-family lot to multi-unit residential to permit a proposal for 5 townhouse units within two buildings. The overall proposed floor area of the redevelopment is approximately 7,200 square feet (roughly 670 square meters). The buildings are proposed to be 3 stories high, with a garage, bicycle storage, and 3 bedrooms for each unit. A total of eight parking spaces are proposed: one garage parking space for each unit, and three visitor stalls.

The proposed driveway access is along the south side of the site off of Tillicum Road facing the intersection of Tillicum Road and McNaughton Avenue in the same location as the existing driveway for the duplex. The intersection is unsignalized with free flowing traffic on Tillicum and a stop sign coming out of McNaughton. Left turns are currently allowed at this intersection from all directions. Further, all existing properties have full movement access allowed to their driveways on this section of Tillicum Road. The proposed site plan can be seen in **Figure 3.1**.

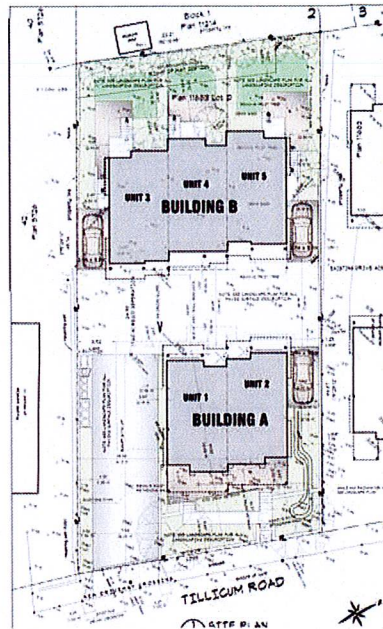


Figure 3.1: Site Plan

4. VEHICLE TRIP GENERATION & TRAFFIC ANALYSIS

This section presents the proposed site vehicle trip generation during the weekday AM and PM peak hour based on trip rates for similar land uses from the Institute of Transportation Engineers' (ITE) Trip Generation Manual (10th Edition).

Tables 4.1 and 4.2 below summarize the anticipated vehicle trip rates and vehicle generated trips based on the average rate from the ITE Trip Generation Manual for the proposed townhouses. Note that single family detached housing ITE #210 was used to be conservative.

Table 4.1: Vehicle Trip Rates

LAND USE	SOURCE	SIZE	UNIT	AM PEAK HOUR			PM PEAK HOUR		
				IN	OUT	TOTAL	IN	OUT	TOTAL
Single family Detached Housing	ITE #210	5	Dwelling Units	0.19	0.56	0.74	0.62	0.37	0.99

Table 4.2 Vehicle Generated Trips

LAND USE	SOURCE	SIZE	UNIT	AM PEAK HOUR			PM PEAK HOUR		
				IN	OUT	TOTAL	IN	OUT	TOTAL
Single family Detached Housing	ITE #210	5	Dwelling Units	1	3	4	3	2	5

Based on this assessment, the proposed site has an estimated trip generation of 4 trips in the AM peak hour and 5 trips in the PM peak hour. This represents approximately 1 additional vehicle movement every 12 minutes.

To understand any potential impact of allowing the left turn into the site, a traffic analysis was conducted using Synchro, a traffic modeling software. To be conservative, 2 inbound left turns (north bound left) and 1 inbound right turn (south bound right) were distributed to the site. Two outbound vehicle trips from the site were distributed equally amongst outbound left and outbound right. Generally, Synchro results indicate that there are minimal anticipated delays or queues that will occur on either the northbound or southbound traffic on Tillicum Road and that there are adequate gaps in traffic for northbound left turning vehicles to access the site which is summarized in **Figure 4.1**.

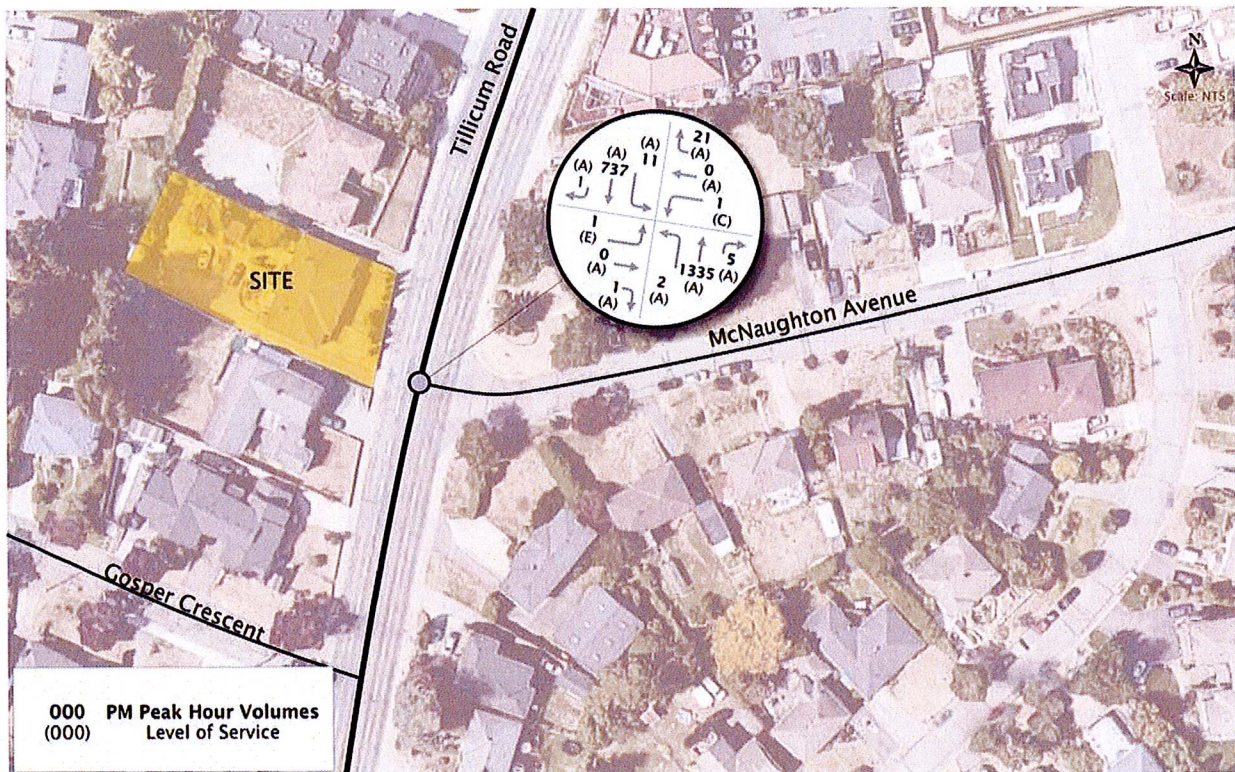


Figure 4.1: Post-Redevelopment Traffic Volumes

The majority of the turning movements operate at level of service A. Delays, on the other hand, are expected for left turning vehicles leaving the site and McNaughton Avenue given the high through traffic volumes on Tillicum.

5. CONCLUSIONS

Based on our existing traffic count data and anticipated vehicle trips generated, the proposed redevelopment will have exceptionally minimal impact to the existing intersection at Tillicum Road and McNaughton Avenue. Tillicum Road traffic is anticipated to continue running at LOS A and left turns onto Tillicum Road continue to expect delays. However, queues more than a 1-2 vehicles are not expected on the site or McNaughton Avenue due to the low volume of vehicles turning left onto Tillicum. Overall, the proposed access arrangement is satisfactory from a traffic operations standpoint, and therefore no action is required at this time.