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MEMORANDUM

RECEIVED
JAN 24 2019
CORP. OF TOWNSHIP OF ESQUIMALT
DEVELOPMENT SERVICES

To: Frank Limshue – WestUrban Developments Ltd.

From: Michael Lee, AScT & Nadine King, P.Eng., PTOE

Our File #: 2592.B01

Project: 681 – 685 Admirals Parking Study

Date: January 17, 2019

RE: Traffic Concerns

Watt Consulting Group was retained by WestUrban Developments to conduct a review for two specific traffic concerns as part of the redevelopment of 681 – 685 Admiral Road: the bus stop location and left turns to / from the site.

The proposed access to the development conflicts with the existing bus stop location. There are two options to relocate the bus stop: move the bus stop north along the site frontage or move the bus stop to the near-side of the Admirals Road / Naden Way / Woodway Road intersection. The near side bus stop configuration is less desirable than the far-side bus stop configuration. There are increased safety concerns and traffic manoeuvring associated with the near-side configuration. Shifting the bus further north along Admirals Road does move the stop further away from the pedestrian desire line at the intersection; however, the shift would not be far enough to be considered a mid-block bus stop. Mid-block bus stops are the least ideal type of stops due to increased walking distances and the potential to increase jaywalking.

The proposed access is located on the east side of Admirals Road approximately 15m north of the Admirals Road / Naden Way / Woodway Road intersection. Admirals Road has buffered bike lanes in both directions, a bus stop, and a four lane cross section: northbound through, southbound left, southbound through, and southbound right. There is a double solid yellow centre dividing line. The close proximity to the intersection makes left turn movements in and out of the site undesirable since vehicles would potentially stop / cross the beginning of the left turn lane following vehicles are not expecting vehicles to stop causing the potential for rear-ends. According to the BC Motor Vehicle Act crossing a double solid yellow may only be completed when a driver is entering or leaving a road when it is safe and without unreasonably affecting other vehicles travel. This type of situation (ability to safely cross) may not arise often given the traffic volumes on Admirals Road and the proximity of the intersection; however, when safe, during non-peak times, vehicles could potentially make left turns in / out of the access. No changes to the paint lines or signage are recommended.

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681 – 685 Admirals Road

Parking Study

Prepared for:	**WestUrban Developments Ltd.**
Prepared by:	**Watt Consulting Group**
Our File:	**2592.B01**
Date:	**January 17, 2019**

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1.0 INTRODUCTION

Watt Consulting Group was retained by WestUrban Developments to conduct a parking study for the proposed development at 681 – 685 Admirals Road in the Township of Esquimalt. The purpose of this study is to assess the adequacy of the proposed parking supply by considering parking demand at representative sites and to identify transportation demand management (TDM) options as required.

1.1 SUBJECT SITE

The proposed redevelopment site is 681 – 685 Admirals Road in the Township of Esquimalt. The site is currently zoned RD-3 | Two Family/Single Family Residential. See **Figure 1.**

FIGURE 1. **SUBJECT SITE**

1.2 SITE CHARACTERISTICS

The following provides information regarding services and transportation options in close proximity to the subject site.

SERVICES

The site is located just over 800m from Esquimalt Village that has various retail, restaurant, office and medical services. Admirals Walk Shopping Centre is located 2km from the site and has similar services as Esquimalt Village.

TRANSIT

There is a bus stop right outside the site for Route 25 | Maplewood/Admirals Walk and Route 46 | Dockyard/Westhills. The closest bus stop for Route 24 | Cedar Hill/Admirals Walk is approximately 450m north of the site. To access Route 26 | Dockyard/UVic the closest bus stop is 400m south of the site These routes are classified as local routes with a service frequency of 20 to 120 minutes, depending on the time of day and day of week.

The closest bus stop for Route 15 | Esquimalt/UVic is approximately 400m south of the site. Route 15 is classified as a Regional Route with limited stops and a service frequency of 15 to 60 minutes, depending on time of day and day of week.

BC Transit's Victoria Transit Future Plan[1] identifies Admirals Road as a "Frequent Transit Corridor"[2] that will provide frequent service (15 minutes or better between 7am and 10pm, 7 days per week) with improved transit travel times achieved by fewer stops, transit priority measures and enhanced bus stop infrastructure. The subject site will benefit from frequent, reliable and convenient transit service.

WALKING

There are sidewalks on both sides of Admirals Road, and adequate crosswalks at major intersections. Admirals Road underwent an extensive street improvement project in 2015 that included installing two-way left-turns, median islands, street lighting upgrades, and sidewalk improvements. The site has a Walkscore[3] of 74, which suggests most errands can be accomplished on foot.

[1] Transit Future Plan, Victoria Region, May 2011. Available online at: https://bctransit.com/servlet/documents/1403641054473

[2] More information on the Victoria Transit Future Plan is available online at: http://bctransit.com/victoria/transit-future/victoria-transit-future-plan

[3] Walkscore. For more information see: https://www.walkscore.com/score/681-admirals-rd-victoria-bc-canada

CYCLING

There are bike lanes on both sides of Admirals Road between Lyall Street and Maplebank Road, which was a part of the improvement project in 2015. The site is 450m south of the Esquimalt and Nanaimo (E+N) Rail Trail, which provides a direct off-road cycling route to View Royal and the Western Communities or to downtown Victoria.

2.0 PROPOSED DEVELOPMENT

The proposal is for 50 Multi-family Residential units. This will be a rental apartment building with units offered at market rates (i.e., no subsidy) consisting of a combination of studio, one, two, and three bedroom units. See **Table 1**.

TABLE 1. **PROPOSED UNIT COMPOSITION**[4]

Number of Bedrooms	Quantity
Studio Bedroom	9
One Bedroom	18
Two Bedroom	17
Three Bedroom	6
Total	**50**

2.1 PROPOSED PARKING SUPPLY

The proposed parking supply is 45 spaces – a parking supply rate of 0.9 spaces per unit.

The proposal also includes provision of 27 long-term bike parking spaces (0.6 bike parking spaces per unit).

3.0 PARKING REQUIREMENT

The Township of Esquimalt Parking Bylaw No. 2011[5] identifies a minimum parking supply rate of 1.3 spaces per unit for Medium and High Density Apartment uses (assumes RM-4 zoning). Applied to the subject site, this results in a requirement for 65 parking spaces. The Bylaw requires that 16 of the required spaces are reserved for visitors, and two spaces designated as Disabled Persons' parking (49 resident, 16 visitor, 2 disabled).

[4] Unit composition information per email correspondence from Praxis Architects, received September 18 2017

[5] The Township's Zoning Bylaw is available online at: www.esquimalt.ca/sites/default/files/docs/municipal-hall/bylaws/parking_bylaw_2011_july.pdf

4.0 EXPECTED PARKING DEMAND

Expected parking demand is estimated in the following sections based on observations and research.

4.1 RESIDENT PARKING, OBSERVATIONS

4.1.1 OBSERVATIONS

Observations of parked vehicles were completed for eight representative sites within Esquimalt to determine an appropriate parking demand rate for the subject site. Study sites are generally located in the western portion of the Township with similar access to public transit and cycling routes as the proposed site. All study sites are market rental apartment buildings. Observations were conducted on Thursday October 5, 2018 and Wednesday October 11, 2018 between 9:00pm and 10:00pm (representing peak period for residential land uses). All representative sites have surface parking, which allowed access to complete counts of parked vehicles.

Results suggest an average peak parking demand of 0.61 vehicles per unit and an 85th percentile of 0.72 vehicles per unit, with rates ranging from 0.45 to 0.73 vehicles per unit. See **Table 2**. The 85th percentile parking demand rate applied to the subject site suggests a total parking demand of 36 vehicles.

TABLE 2. **SUMMARY OF OBSERVATIONS AT REPRESENTATIVE SITES**

Location	Number of Units	Thursday October 5, 9:00pm		Wednesday October 11, 9:00pm	
		Vehicles Observed	Demand Rate (vehicles per unit)	Vehicles Observed	Demand Rate (vehicles per unit)
850 Admirals Rd	20	13	0.65	13	0.65
841 Kindersley Rd	11	8	0.73	7	0.64
625 Constance Ave	29	15	0.52	13	0.45
639 Constance Ave	19	8	0.42	10	0.53
1337 Saunders St	28	16	0.57	15	0.54
1340 Sussex St	39	21	0.54	24	0.62
1357 Esquimalt Rd	50	32	0.64	36	0.72
611 Admirals Rd	25	16	0.64	18	0.72
Average			**0.59**		**0.61**
85th Percentile			**0.65**		**0.72**

4.1.2 ADJUSTMENT FACTORS

Observations are a useful method of assessing parking demand rates; however, there are limitations. One such limitation is the fact that an observation may not include all residents while they are home with their parked vehicle on-site. As shown in **Figure 2**, peak resident parking demand typically reaches 100% at 10:00pm which is the tail end of when the observations were completed for this study. There is some variation between sources as to when the ideal time is to conduct observations. A study using similar methods conducted parking observations between 12am and 5am and reported that resident parking demand may be highest between those hours.[6] Based on the available research, a conservative 10% adjustment factor is considered appropriate for the observations to ensure peak demand for parking is identified.

FIGURE 2. **RESIDENTIAL PARKING DEMAND BY TIME OF DAY**[7]

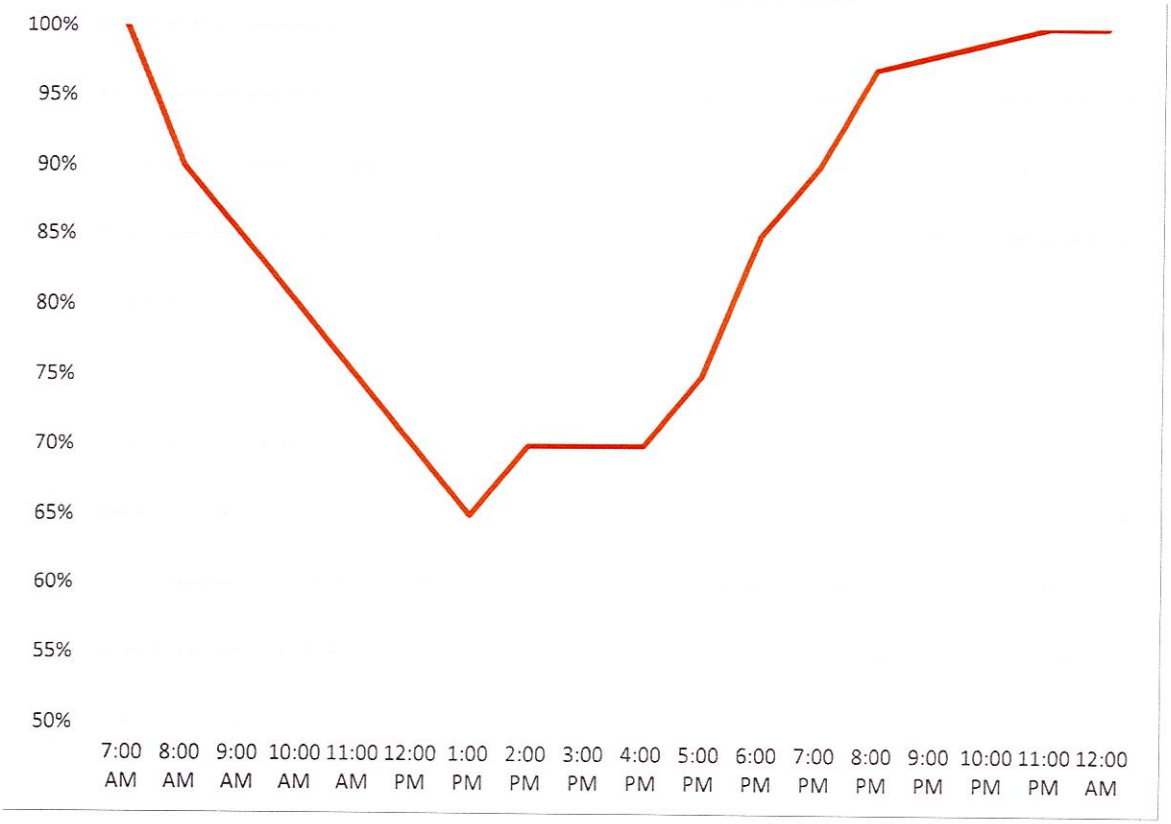

Table 3 shows the difference between the observed parking demand and the adjusted parking demand rate, reflecting the 10% increase for "missed vehicles." The average observed demand rate increased from 0.59 to 0.70 vehicles per unit.

[6] Cervero, R., Adkins, A & Sullivan, C. (2010). *Are Suburban TODs Over-Parked?* Journal of Public Transportation, 13(2), 47-70.

[7] Residential Parking Demand by Time of Day is based on percentages identified in the Urban Land Institute *Shared Parking Manual*, Second Edition.

TABLE 3. **ADJUSTED PARKING DEMAND AT REPRESENTATIVE SITES**

Location	Walkscrore	Number of Units	Observed Parking Demand Rate (vehicles per unit)	Adjusted Parking Demand Rate (vehicles per unit)
850 Admirals Rd	54	20	0.65	0.72
841 Kindersley Rd	53	11	0.73	0.80
625 Constance Ave	76	29	0.52	0.57
639 Constance Ave	74	19	0.53	0.58
1337 Saunders St	69	28	0.57	0.63
1340 Sussex St	73	39	0.62	0.68
1357 Esquimalt Rd	68	50	0.72	0.79
611 Admirals Rd	80	25	0.72	0.79
Average			**0.59**	**0.70**

4.1.3 PARKING DEMAIND BY UNIT SIZE

Research suggests that parking demand varies based on the size of unit – the higher the number of bedrooms, the higher the parking demand. For each representative site, the total parking demand can be further assessed by unit size (i.e., number of bedrooms).

Parking demand by unit type was calculated using:

1. Adjusted peak parking demand at each site;
2. The breakdown of unit type (i.e., number of bedrooms) at each site[8]; and
3. The assumed "ratio differences" in parking demand between each unit type based on the King County Metro[9] study, which recommends one-bedroom units have a 20% higher parking demand than bachelor units; two-bedroom units have a 60% higher parking demand than one-bedroom units; and three-bedroom units have a 15% higher parking demand than two-bedroom units.

Table 4 presents the parking demand by unit type applied to the observed parking demand at each representative site.

[8] The unit size breakdown for the representative sites was obtained via email from the Canada Mortgage and Housing Corporation.

[9] King County Metro. (2013). Right Size Parking Model Code. Table 2, page 21. Available online at: http://metro.kingcounty.gov/programs-projects/right-size-parking/pdf/140110-rsp-model-code.pdf

TABLE 4. **PARKING DEMAND AT REPRESENTATIVE SITES, FACTORED FOR UNIT SIZE**

Location	Adjusted Parking Demand Rate (vehicles per unit)	Unit Type			
		Studio	One-Bedroom	Two-Bedroom	Three-Bedroom
850 Admirals Rd	0.72	-	0.50	0.81	0.93
841 Kindersley Rd	0.80	-	0.69	1.10	-
625 Constance Ave	0.57	-	0.43	0.69	-
639 Constance Ave	0.58	-	0.46	0.74	-
1337 Saunders St	0.63	0.47	0.57	0.91	-
1340 Sussex St	0.68	0.47	0.57	0.91	-
1357 Esquimalt Rd	0.79	-	0.59	0.95	-
611 Admirals Rd	0.79	-	0.61	0.97	1.12
Average	**0.70**	**0.47**	**0.55**	**0.88**	**1.02**

Applying the average parking demand by unit size to the proposed development indicates that resident parking demand will be 38 vehicles which is similar to the average demand based on total units. The results of the analysis by unit type is as follows:

- Studio-Bedroom Units (9) = 0.47 vehicles per unit, 5 vehicles;
- One-Bedroom Units (18) = 0.65 vehicles per unit, 10 vehicles;
- Two-Bedroom Units (17) = 0.88 vehicles per unit, 16 vehicles;
- Three-Bedroom Units (6) = 1.02 vehicles per unit, 7 vehicles;
- **Total Residential Parking Demand = 38 vehicles**

4.2 VISITOR PARKING DEMAND

Visitor parking demand rates have been demonstrated in the range of 0.05 to 0.07 vehicles per unit for multi-residential buildings across the Greater Victoria region.[10] More recent research found a visitor parking demand rate of 0.1 across 16 multi-family residential sites in proximity to downtown Victoria.[11]

It is recommended that a rate of 0.1 vehicles per unit was applied to this proposed development, it would result in a peak visitor parking demand of 5 vehicles.

[10] Based on observations of visitor parking conducted in 2015 for two studies of multi-family residential sites (one adjacent to downtown Victoria, the other in Langford) and findings from the 2012 Metro Vancouver Apartment Parking Study (Table 31, pg50) available at:
www.metrovancouver.org/services/regionalplanning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf

[11] City of Victoria. (2016). Off-Street Parking Requirements (Schedule C) Working Paper No.3. Available online at:
https://www.victoria.ca/assets/Departments/Planning~Development/Community~Planning/Documents/Victoria%20Schedule%20C%20Parking%20Review_Working%20Paper%20no3_FINAL_Sept23-16.pdf

4.3 SUMMARY OF EXPECTED PARKING DEMAND

Results from the observations of representative sites indicate that resident parking demand will be 38 residential vehicles. The visitor parking demand rate is estimated to be 0.1 spaces per unit, which results in a peak demand of 5 vehicles. Therefore, a total of 43 vehicles are expected for the subject site, which is 2 less than the proposed parking supply (45 parking spaces). See **Table 5** for a breakdown.

TABLE 5. **SUMMARY OF EXPECTED PARKING DEMAND**

Land Use		Quantity	Demand Rate (vehicles per unit)	Expected Parking Demand
Multi-Family Apartment	Studio-Bedroom Units	9 Units	0.47	5
	One-Bedroom Units	18 units	0.55	10
	Two-Bedroom Units	17 units	0.88	16
	Three-Bedroom Units	6 units	1.02	7
	Visitor Parking	50 units	0.1	5
		Total Expected Parking Demand		**43 vehicles**

5.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation demand management (TDM) is the application of strategies and policies to influence individual travel choice, most commonly to reduce single-occupant vehicle travel. TDM measures can be pursued to encourage sustainable travel, enhance travel options and decrease parking demand. The following are identified for the applicant's consideration.

5.1 BIKE PARKING

Bike parking is not currently required in the Township's Parking Bylaw. However, the Township of Esquimalt Official Community Plan includes policy that states:

> *In new multi-unit residential developments, secure bicycle storage for residents should be provided in the ratio of 1.5 storage spaces per dwelling unit. In addition to the residents' parking, each multi-unit building should have six (6) bicycle lock-up spaces for the use of visitors.*

The applicant is providing bike parking as per the policy in the OCP, which is higher than typical bike parking requirements in other communities.

6.0 SUMMARY

The proposed development is for 50 units and 45 off-street parking spaces – a parking supply rate of 0.9 spaces per unit. The Township's Parking Bylaw identifies a required minimum parking supply of 65 parking spaces; 20 more than is proposed.

Expected parking demand was calculated for the site based on observations of representative study sites and literature review. Results suggest an expected parking demand of 38 resident vehicles and 5 visitor vehicles – a total site parking demand of 43 vehicles. Site parking demand is expected to be accommodated within the proposed off-street parking supply and without impacting the surrounding neighbourhood.

The development is to include 27 long-term bicycle parking in the underground parkade.

6.1 RECOMMENDATION

1. It is recommended that the Township grant the requested variance to allow for provision of 45 parking spaces (0.9 spaces per unit)