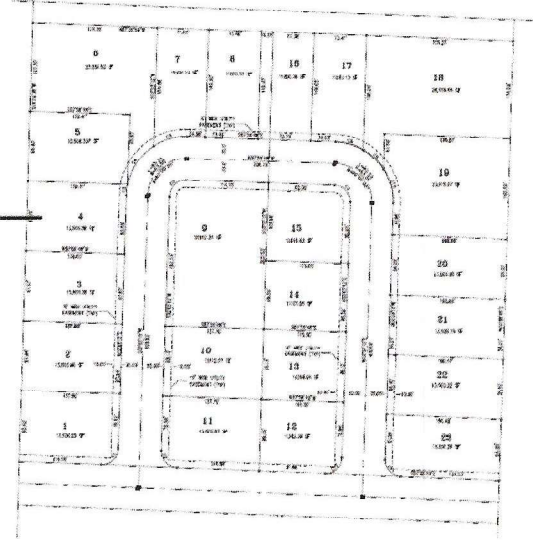


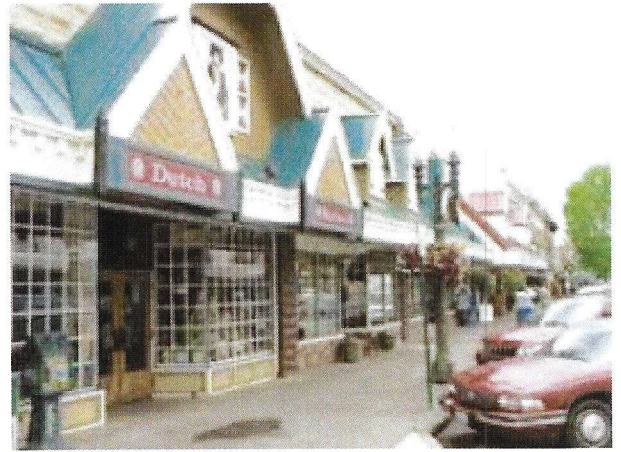
Lynden

DEJONG LONG PLAT LEVEL II TRAFFIC LETTER

November 26, 2019



JTE . Jake Traffic Engineering, Inc.
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November 26, 2019

DEJONG LONG PLAT
Attn: Jerry Blankers, Managing Broker
505 Front Street
Lynden, WA 98264

Re: Dejong Long Plat - Lynden
Level II Traffic Letter

Dear Mr. Blankers,

I am pleased to present this Lynden Level II Traffic Letter for the for the 23 lot Dejong Long Plat project located at 1205 E. Badger Road. The lots are to be developed with up to 102 residential units. The City of Lynden of Lynden Traffic Impact Analysis Requirements, copy attached, requires a LII Traffic Letter. A Level II Traffic Letter includes Project Description, Trip Generation, Site Access Review and ascertaining the City Traffic Impact Fee payment amount.

Below is an aerial of the site, augmented, obtained from Google Earth:



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I have inspected the site and surrounding street system. The general format of this report is to describe the proposed project, identify existing street conditions, calculate the traffic that would be generated by the project, review the site access and ascertain the City Traffic Impact Fee and other apparent traffic mitigation. A copy of the City's Traffic Impact Analysis Requirements is attached.

The **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS** are on page seven of this report.

PROJECT INFORMATION

Figure 1 is a vicinity map which shows the location of the site and its surrounding street system.

Figure 2 shows a preliminary site plan prepared by LDES, Inc. The preliminary site plan shows the 23 lot subdivision layout and an internal loop street that accesses Aaron Drive. I understand that the multifamily project would include:

- | | | |
|---|------------------------|----------------------|
| - | eight tri-plexes | 24-units |
| - | 11 four-plexes | 44- units |
| - | two eight plexes | 16 - units |
| - | one or two nine-plexes | <u>9 to 18 units</u> |
| | | 93 to 102 |

Presuming the existing building on lot #9 is made into a nine-plex the site would provide 102 multi-family units

Full development and occupancy of the proposed Dejong Long Plat project is anticipated to occur by 2020/2021, presuming the permits are issued in a timely manner.

EXISTING ENVIRONMENT

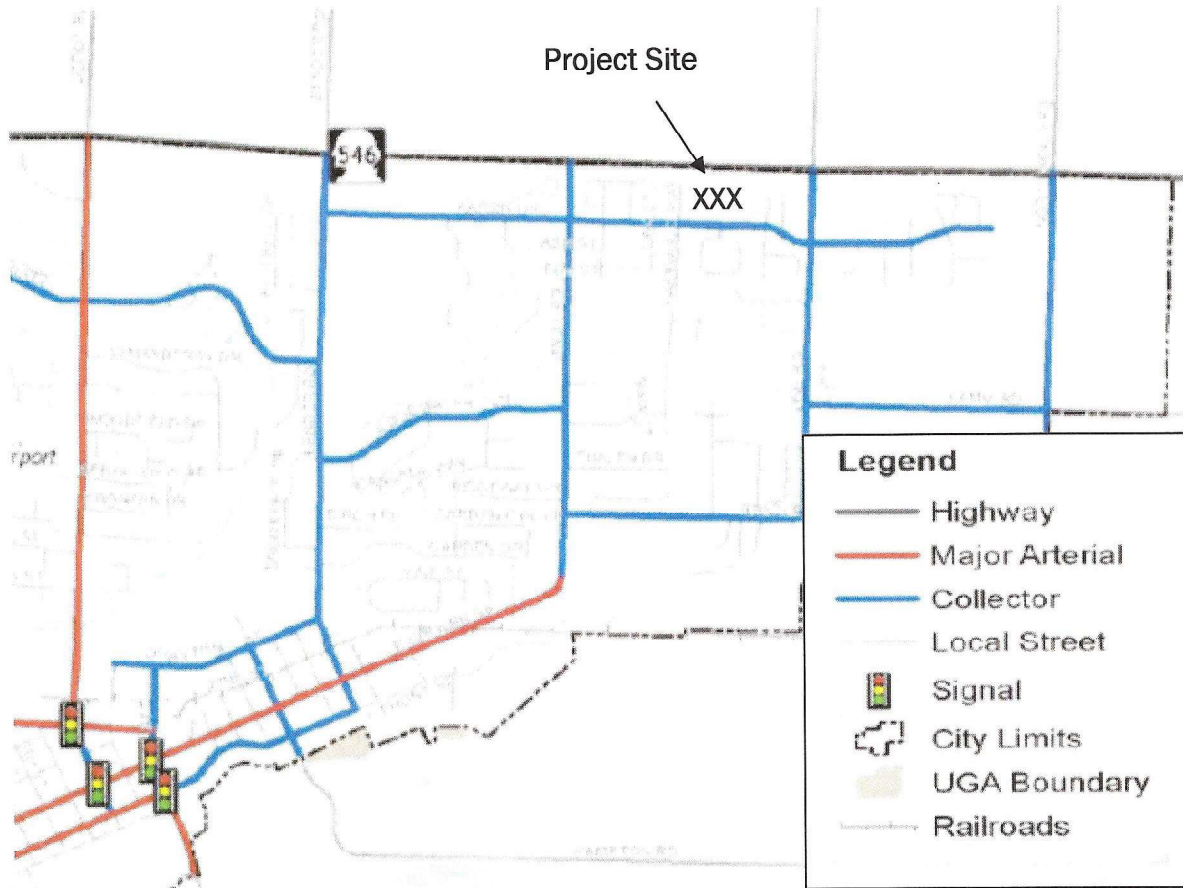
Project Site

The site is located on two parcels, 400316-450534 and 400316-484534, and is currently developed. The existing development comprises a SFDU and a ~6,600 (Google Earth measurement) commercial building that I understand is used by Veritas Homes to manufacture modular homes

Street System

The primary streets within the study area and their classifications (per Figure 2-2 Roadway Functional Classification Map for the City of Lynden Appendix A: The Transportation Element, September 2016) are noted in the graphic (pertinent portion depicted, below):

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Aaron Drive 2-lane Collector Street with parking (south side currently and with site development both sides) and a posted speed limit of 25 MPH

Pedestrian Facilities (General)

Curb, gutter and sidewalk exist along the developed sections of Aaron Drive and other streets in the site vicinity. Paved shoulders exist on E. Badger Road, aka SR - 546.

Incident/Safety Inspection

Incident data was reviewed using the WSDOT accident data portal available online at <https://remoteapps.wsdot.wa.gov/highwaysafety/collision/data/portal/public/>. This portal was used to review incidents in the site vicinity for the years 2016 to 2018. The WSDOT data is attached.

Inspection of the incident data showed one property damage incident on Aaron Drive in 2018 in the site vicinity. No apparent safety issue is noted on streets in the site vicinity.

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TRIP GENERATION

Definitions

A vehicle trip is defined as a single or one direction vehicle movement with either the origin or destination (exiting or entering) inside the proposed development.

Traffic generated by development projects consists of the following types:

- Pass-By Trips: Trips made as intermediate stops on the way from an origin to a primary trip destination.
- Diverted Link Trips: Trips attracted from the traffic volume on roadways within the vicinity of the generator but require a diversion from that roadway to another roadway to gain access to the site.
- Captured Trips: Site trips shared by more than one land use in a multi-use development.
- Primary (New) Trips: Trips made for the specific purpose of using the services of the project.

Trip Generation

The proposed Dejong Long Plat project is expected to generate 705 new vehicular trips during the average weekday, 42 trips during the street traffic AM and 52 during the PM peak hours, see Table 1.

TABLE 1 - TRIP GENERATION DEJONG LONG PLAT - LYNDEN LEVEL II TRAFFIC LETTER											
Time Period	Size (X)	TG Rate	Enter %	Enter Trips	Exit %	Exit Trips	Total (T)	Pass by %	Pass by Trips	Net Total	
Proposed: Apartment Units - General Urban/Suburban (ITE LUC 220; 102 units)											
Weekday	102	7.32	50%	373.3	50%	373.3	746.6	5%	37.3	709.3	
AM peak hour	102	0.46	23%	10.8	77%	36.1	46.9	0%	0.0	46.9	
PM peak hour	102	0.56	63%	36.0	37%	21.1	57.1	5%	2.9	54.3	
Existing: Single Family Detached Housing - General Urban/Suburban (ITE LUC 210; 1 - SFDU)											
Weekday	1	9.44	50%	4.7	50%	4.7	9.4	5%	0.5	9.0	
AM peak hour	1	0.74	25%	0.2	75%	0.6	0.7	0%	0.0	0.7	
PM peak hour	1	0.99	63%	0.6	37%	0.4	1.0	0%	0.0	1.0	
Existing: Commercial Space (Light Industrial) - General Urban/Suburban (ITE LUC 110; ~6,600 sf)											
Weekday	6,600	4.96	50%	16.4	50%	16.4	32.7	5%	1.6	31.1	
AM peak hour	6,600	0.7	88%	4.1	12%	0.6	4.6	0%	0.0	4.6	
PM peak hour	6,600	0.63	13%	0.5	87%	3.6	4.2	5%	0.2	4.0	
Delta Site Traffic: Proposed - Existing											
Weekday	-	-	-	352.2	-	352.2	704.5	-	-	659.2	
AM peak hour	-	-	-	6.5	-	36.0	41.6	-	-	41.6	
PM peak hour	-	-	-	34.8	-	17.2	52.0	-	-	49.3	

Where X = number of units or sf and T = Trips
 Note: Pass-by rates per ITE, local Agency data and Traffic Engineering Experience, Lynden data indicates 0% pass-by for the noted uses, thus for analysis no pass-by to account for service/delivery type trips is taken
 Due to rounding some values may not add up.

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The trip generation for the project is calculated using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition for Multi-family housing, Single Family – Detached and Light Industrial (ITE LUC’s 220, 210 and 110, respectively). All site trips made by all vehicles for all purposes, including commuter, visitor, and service and delivery vehicle trips are included in the trip generation values.

SITE ACCESS

Sight Lines

Access to the site will be via new street intersections with Aaron Drive, the existing access to E. Badger Road will be closed. Aaron Road is generally flat and strait at the site. East of Mercedes Drive the street has a horizontal curve to the south.

Section 4-8 and 4-9 in the City of Lynden Project Manual for Engineering Design and Development Standards provide City sight line criteria. Table 4-2 noted below identifies a sight line of 350’ for a 25 MPH speed.

**Table 4-2
 Minimum Sight Distance, d, (ft)**

<u>Design Speed. mph</u>	<u>Min. Sight Distance. d in ft.</u>
20	280
25	350
30	420
35	490
40	560
45	630

I have reviewed the City sight lines against those contained in A Policy on Geometric Design of Highways and Streets by the American Association of State Highway and Transportation Officials (AASHTO) criteria. The ASSHTO identifies the SSD and ESD for a 25 MPH speed at 155’ and 280’, respectively.

The sight lines at the proposed accesses on Aaron Drive meet City requirement for the posted limit of 25 MPH via Traffic Engineering Inspection. No street parking should be allowed on Aaron Drive within 30’ of the site accesses.

Traffic Operation

Figure 2-3 in Appendix A: The Transportation Element provides existing (2015) PM peak hour traffic volumes on streets in the City. A copy of the figure is attached in the appendix of this letter. Review of the City data indicates that about 95 trips are westbound and 120 eastbound on Aaron Drive west of Vinup Road. On Vinup Road there are 205 southbound and 200 northbound trips. These are relatively modest peak hour traffic volumes and traffic

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using Aaron Road at the site are likely similar to the volumes west of Vinup Road. Motorists turning on and off of Aaron Road are projected to incur little delay.

Channelization

WSDOT Design Manual Exhibit 1310-7a Left-Turn Storage Guidelines Two Lane, Unsignalized and Exhibit 1310-11 Right Turn Lanes Guidelines were inspected regarding channelization. The site traffic volumes are well below thresholds that would typically warrant additional channelization. The WSDOT figures are attached.

Traffic Control

The installation of a ‘Stop’ sign on the site access street approaches to Aaron Road per applicable standards is recommended.

AGENCY TRAFFIC IMPACT MITIGATION REQUIREMENTS

The City of Lynden has a Traffic Impact Fee program adopted via Resolution 958 December 5, 2016 effective January 1, 2017. The City’s TIF rates are based on the ITE Trip Generation 9th Edition that has been replaced by the 10th Edition. Table 2 below provides the TIF for the proposed use and existing site development adjusted to reflect the 10th Edition data.

TABLE 2 - TRAFFIC IMPACT FEE DEJONG LONG PLAT - LYNDEN LEVEL II TRAFFIC LETTER						
Use	Units	City TIF/rate	Estimated TIF	City	ITE 10th	Refined TIF
Apartment	102	\$ 1,309.00	\$ 133,518	0.62	0.56	\$ 120,597
SFDU	1	\$ 2,111.00	\$ 2,111	1.00	0.99	\$ 2,090
Light Industrial	6,600	\$ 2,048.00	\$ 13,517	0.97	0.63	\$ 8,779
Delta TIF			\$ 117,890			\$ 109,728

Units - per unit residential, per 1,000 sf commercial
 Rate per Lynden Resolution #958 effective January 1, 2017, based on ITE Trip Generation 9th Edition (out of date)
 The fee schedule notes a rate per PM peak hour trip of \$2,111
 TIF per PMPHT \$2,111 ----> \$109,713

The adjusted TIF rate for each apartment unit is \$1,182.32 per the 10th Edition data. I also refined the TIF for the existing uses to reflect the new ITE data. I project the TIF for the proposed 102 units Dejong Long Plat project at \$109,728 based on pro-rating the ITE 10th Edition data to the City data and City TIF rate of \$2,111 per net new PM peak hour trip; the fee is \$109,713 using the net new PM peak hour trips.

The proposed Dejong Long Plat project is to be constructed in conformance with City of Lynden standards.

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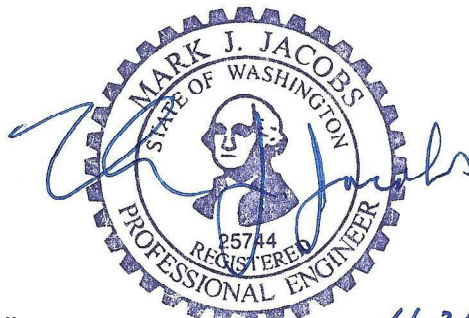
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This Level II Traffic Letter documents the traffic generation of the Dejong Long Plat project and reviews the access on Aaron Road. The project is projected to generate 50 net new PM peak hour trips. Sight lines onto Aaron Road were inspected and determined to meet applicable requirements for the posted speed limit (25 MPH)

I recommend that the Dejong Long Plat project be allowed with the following traffic impact mitigation measures.

1. Construct site in accordance with applicable City requirements.
2. No street parking should be allowed on Aaron Road within 30' of the site access intersections.
3. Install a 'Stop' sign on each site access street approach to Aaron Road per applicable requirements.
4. Pay applicable City Traffic Impact Fee; adjusted to reflect the ITE Trip Generation 10th Edition data

No other traffic mitigation should be necessary. Please contact me at 206.762.1478 or email me at jaketraffic@comcast.net if you have any questions.



Sincerely,

Mark J. Jacobs, PE, PTOE, President
JAKE TRAFFIC ENGINEERING, INC.

MJJ: mjj

11.26.2019