

October 1, 2018

Mr. David Mohlenbrok
City of Rocklin
4081 Alvis Court
Rocklin, CA 95677

**RE: PLACER CREEK APARTMENTS: UNIVERSITY AVENUE TRAFFIC SIGNAL
INSTALLATION SCHEDULE.**

Dear Mr. Mohlenbrok:

As requested, this letter supplements our February 16, 2018 Traffic Assessment for the Placer Creek Apartments to address your questions regarding the possible schedule for installing the traffic signal planned for the apartments' University Avenue access. Our earlier analysis addressed the operation of the traffic signal under long term conditions with buildout of the Northwest Rocklin Area General Development Plan (NRGDP). You have asked how much local development may proceed before peak hour traffic signal warrants are satisfied at the intersection.

Approach. Our approach to addressing this question was to identify the traffic volumes accompanying incremental development, superimpose those trips onto existing p.m. peak hour background traffic and determine the combinations of background growth and local development that could trigger satisfaction of warrants.

Peak hour traffic signal warrants make use of traffic volume forecasts for both the "major" street (i.e., University Avenue) and the minor (apartments-retail-office access) approaches. New p.m. peak hour traffic counts were conducted at the Whitney Ranch Parkway / University Avenue intersection to establish the background major street volume on University Avenue south of the intersection. The peak hour traffic contribution at the intersection from the apartments and from the neighboring retail (195 ksf), hotel (120 rooms) and office uses (410 ksf) were taken from our original report.

Results – Local Development Alone. Table 1 summarizes the traffic contributions from each local development assumed in our analysis. The table also indicates the combinations of development that result in satisfaction of peak hour warrants. Clearly, the contribution of the apartments alone is very small, and the resulting volumes would not approach the level of satisfying warrants. Conversely, the addition of all the traffic associated build out of local development yields volumes that clearly do satisfy warrants. However, because the current background volume is very low, if no change in background traffic on University Avenue occurred, the apartments could proceed and roughly 95% of the other local development could occur before warrants are met, as noted in the attached warrant worksheet.

Results – Local Development Plus Balance of NRAGDP. Our previous work allowed us to identify the volume of through traffic at the intersection suggested by the Fehr & Peers analysis of the NRAGDP. The through traffic increase was roughly 800 vehicles per hour. While the extent to which this volume will be realized is dependent on actual development occurring, we have assumed that this increment is caused by development in the NRAGDP. For simplicity we assumed this increase will occur uniformly over ten years. Table 1 shows the effects of this additional traffic on the status of peak hour traffic signal warrants.

As indicated, the level of local development occurring prior to satisfaction of peak hour warrants will be less than without background growth and will theoretically decrease over time. For simplicity I have assumed that the other local elements (hotel, office, retail) proceed uniformly. As indicated, the effects of background growth are initially minor, and the allowable local area development level would only decrease to 90% with 1 year of background growth. The allowable development level drops by about 5% each year, and when all background growth has occurred in ten years, the apartments plus about 45% of the local development could proceed before the warrants are met, as noted in the attached warrant worksheet.

Please feel free to contact me if you have any questions or need more information.

Sincerely Yours,

KD Anderson & Associates, Inc.

A handwritten signature in black ink, appearing to read 'K D Anderson', with a long horizontal flourish extending to the right.

Kenneth D. Anderson, P.E.
President

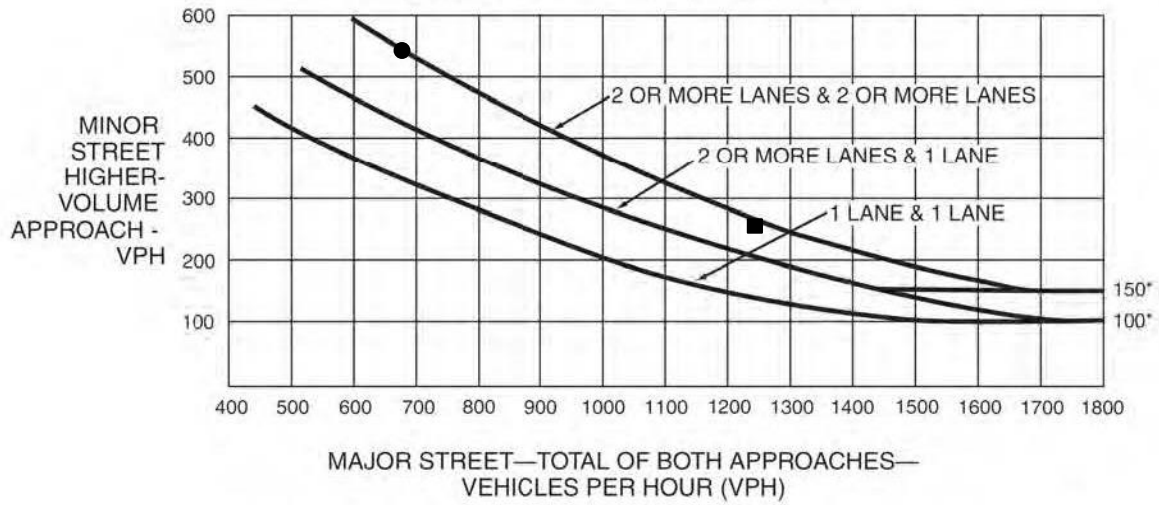
Attachments: Table 1, Warrant Worksheet

**TABLE 1
DEVELOPMENT LEVELS SATISFYING PEAK HOUR TRAFFIC SIGNAL WARRANTS**

Major Street (University)										Minor Street						Warrants Met?	
Background Growth	Exist	Apartments	Retail / Hotel	Office	Total	Apartments	Retail / Hotel	Office	Total	Apartments	Retail / Hotel	Office	Total				
<i>Local Development Alone</i>																	
None	151	100%	43	0%	0	0%	0	194	100%	37 ¹	0%	0	0%	0	37	No	
	151	100%	43	100%	306	100%	245	745	100%	24	100%	221	100%	302	547	Yes	
	151	100%	43	100%	306	90%	221	721	100%	24	100%	221	90%	272	517	Yes	
	151	100%	43	90%	275	100%	245	685	100%	24	90%	199	100%	302	525	Yes	
	151	100%	43	95%	291	95%	233	686	100%	24	95%	229	95%	287	540	Yes	
¹ with the project alone the westbound approach is the larger minor street volume, the eastbound approach is applicable under all other scenarios																	
<i>All Development</i>																	
1 year	80	151	100%	43	90%	275	90%	221	770	100%	24	90%	199	90%	272	495	Yes
2 year	160	151	100%	43	85%	260	85%	208	822	100%	24	85%	188	85%	257	469	Yes
3 year	240	151	100%	43	80%	245	80%	196	875	100%	24	80%	177	80%	242	443	Yes
4 year	320	151	100%	43	75%	230	75%	172	916	100%	24	75%	166	75%	227	417	Yes
5 year	400	151	100%	43	70%	214	70%	172	980	100%	24	70%	155	70%	211	390	Yes
6 year	480	151	100%	43	65%	199	65%	159	1,032	100%	24	65%	144	65%	196	364	Yes
7 year	560	151	100%	43	60%	184	60%	147	1,085	100%	24	60%	133	60%	181	338	Yes
8 year	640	151	100%	43	55%	168	55%	135	1,137	100%	24	55%	122	55%	166	312	Yes
9 year	720	151	100%	43	50%	153	50%	123	1,190	100%	24	50%	111	50%	151	286	Yes
10 year	800	151	100%	43	45%	138	45%	110	1,242	100%	24	45%	99	45%	136	259	Yes

KDA

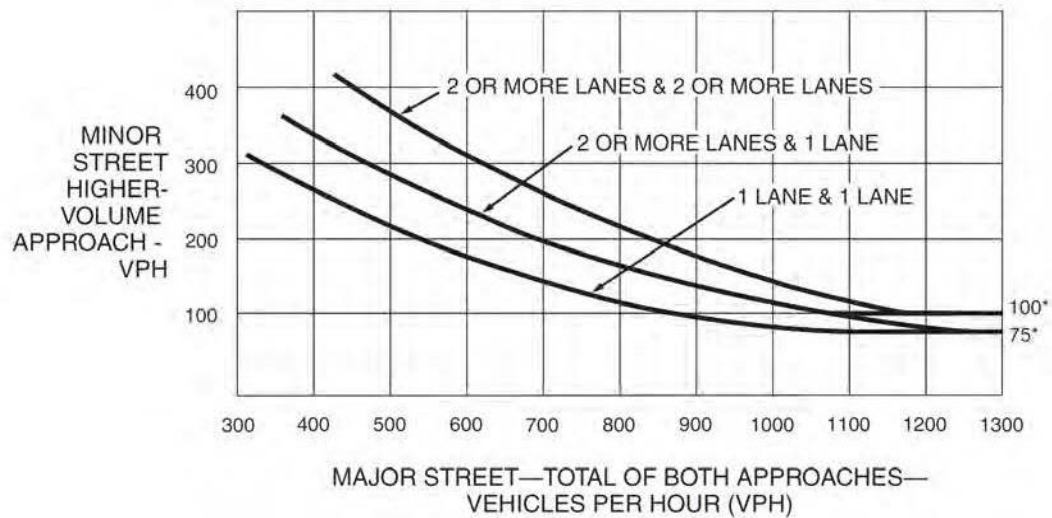
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

UNIVERSITY AVENUE – ACCESS

EX PLUS 95%	● : MAJOR 686	MINOR 540
10 YRS PLUS 45%	■ : MAJOR 1242	MINOR 259