Alex Georgevitch Consulting

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October 13, 2019

Mr. Gavin Finley, PE Santa Clara County Roads & Airports Department 101 Skyport Drive San Jose, CA 95110

RE: Traffic Impact Analysis Review for Bay Area Vipassana Center Gilroy

Dear Mr. Finley:

We have been retained to analyze traffic related impacts to a new Bay Area Vipassana Center (BAVC) Meditation Center located at 9201 El Matador Drive in Gilroy. The site (APN 75630024) is located at the westerly corner of Redwood Retreat Road and El Matador Drive just to the west of Watsonville Road and consists of approximately 54.6 acres.

Existing Site Conditions

The development is located at the westerly corner of Redwood Retreat Road and El Matador Drive just west of Watsonville Road. The surrounding development includes rural and suburban residential and agriculture. The property is approximately 54.6-acres and currently has a large barn. A majority of the property is heavily wooded and not planned for development. The northeasterly one-third of the site is where the development is planned.

Redwood Retreat Road is a County Minor Collector Rural two-lane road with approximate 10-foot travel lanes and no shoulders. El Matador Drive is a local road that is mainly unimproved with two 10-foot travel lanes and a roadside ditch.

Proposed Site Plan

The proposed site plan includes 18 buildings that total to approximately 52,290 square feet. Buildings include a meditation hall/cell complex at 12,200 square feet; two toilet blocks at 250 square feet each; kitchen and dining hall at 6,300 square feet; administrative office at 2,100 square feet; caretakers residence at 1,340 square feet; ten residence structures with 16 rooms at 2,600 square feet; instructor's residence at 1,800 square feet; and a maintenance building at 2,050 square feet. The buildings comprise the Meditation Center and will be the only use of the proposed development. It is important to understand the use of the site as all buildings are only for the 120 students and volunteers (maximum of 30). The residence structure are gender specific. No other uses occur on the site and at no time will there be more than 150 people on site.

The meditation center is a unique use that has very focused uses. The center's program typically consists of two 10-day silent retreats, called "courses", per month, with a 3-day period between courses for cleaning, course set-up, etc. Students are not permitted to leave the center during the 10-day retreat which are typically conducted Wednesday through Sunday. Thus the bulk of the traffic to and from the proposed center consists of trips to the center on two Wednesdays each month and trips from the center on two Sundays each month.

Existing Roadway and Traffic Conditions

The main routes to the site are along Watsonville Road to the north and south. Watsonville Road to the south connects with Hecker Pass (State Highway 152) which travels east into Gilroy and State Highway 101 (north and south) and west to coastal cities including Watsonville, Santa Cruz and Montery. State Highway 152 also continues east of Gilroy to serve the Central Valley and other outlying areas. Watsonville Road to the north ties into Morgan Hill and State Highway 101 including the Bay Area.

Watsonville Road is classified as a Minor Arterial Rural road with an ADT of 4,070 in 2015 according to the County Road Book (page 46, July 18, 2018). The intersection of Watsonville Road and Redwood Retreat is a tee intersection with a fully developed left turn lane for northbound traffic along Watsonville Road. A traffic count was performed mid-week on Wednesday, July 17, 2019 and included AM and PM peak hour counts (2-hour). The AM peak hour had 380 vehicles and the PM peak hour had 724 vehicles. A Sunday AM peak hour count was also performed on July 21, 2019 (3-hour) and showed 238 vehicles during the peak.

Redwood Retreat Road is classified as a Minor Collector Rural per the County Road Book with an ADT of 490 in 2011. A traffic count was performed on Wednesday, July 17, 2019 and included AM and PM peak hour counts (2-hour). The AM peak hour had 34 vehicles and the PM peak hour had 38 vehicles. A Sunday AM peak hour count was also performed on July 21, 2019 (3-hour) and showed 23 vehicles during the peak.

Estimated Trip Generation

Estimates of daily vehicle trip ends for the proposed development were based on empirical observations at similar developments. These observations are summarized in the standard reference *Trip Generation*, 10th Edition, published by the Institute of Transportation Engineers. Unfortunately, there are no specifics for a Meditation Center, much less one that provides only two 10-day courses per month. This analysis will contrast the closest institutional use available in the manual along with specifics for this unique use (applicant provided data).

The applicant provided data is based on several sites located throughout California and deal with the unique nature of this development. Besides the strong encouragement to carpool the development only serves a very specific group of people per 10-day session with little or no traffic coming or going outside of the arrival or departure days.

Sample Trip Generation	Estimates				
Church	Trips/Thousand Square	No. TSF		Trips	
(ITE Code 560)	Feet (TSF)		Total	Enter	Exit
				50%	50%
Daily	6.95	10.4	72	36	36
				45%	55%
PM Peak Hour	0.49	10.4	5	2	3
				60%	40%
AM Peak Hour	0.33	10.4	3	2	1
				50%	50%
Sunday Daily	27.63	10.4	287	144	143

Comparison of proposed use to that of a church or other institutional use:

The are no facilities in the Trip General Manual that are similar to this development. The closest use could be a church, but the ones studied had uses throughout the week.

A significant difference between this facility and a church (in terms of traffic impacts) is that a church typically has regular services on weekends and weekdays whereas a meditation center that offers 10-day courses only have traffic entering and exiting the site 4-days per month with the exception of minor traffic for food deliveries and other miscellaneous trips. This distinguishes this project from churches, where all worshippers are expected to arrive and depart within the same 15-20 minute time period.

Everything needed by persons receiving this training including meals and housing are provided by the facility and thus there is no need for anyone to leave the site during these sessions. The housing is only for use by those taking the 10-day training. Trips should be looked at during the meditation courses.

Use during Meditation Course:

Ten residential dormitories are planned for the site for a total of 154 beds. During meditation courses there will be as many as 12 full time staff in residence plus volunteers on-site during the full 10-days.

Courses begin on Wednesdays at 6 pm and finish eleven days later on Sundays at 6:30 am. Students arrive the day of the course with around 20 percent arriving before 1:00 PM; approximately 70 percent arriving between the hours of 1:00 and 6:00 PM; and the last 10 percent arriving after 6:00 PM. At the end of the course on Sunday students leave with a majority of them leaving before 9:00 AM. Staff and a few remaining students leave after the 9:00 AM hour.

Even though students attending the Retreats are housed on site and are not permitted to leave the facility there will be other activities that take place that will generate trips which include the following:

- During courses it can be expected that food deliveries will occur 1 time every 3 days.
- Persons from neighboring communities will oftentimes volunteer their time to help out at the facility during Retreats. This number of persons arriving and departing the site on a given day will not exceed six.
- There may also be a small number of administrative staff that will come each day, but this number will not exceed four.

Summary of trip generation:

Analysis of currently operating meditation centers show an average of 92 trips will be generated on the first and last day of the courses for a fully built-out center with 120 students and up to 30 volunteers. Courses are offered twice a month and start on Wednesday and end on Sunday. Using the existing counts, it is determined that departure traffic on Sunday falls outside the peak hour but will be applied during the AM peak to verify safety and capacity. The arrival trips on Wednesday have a majority of the cars arriving between 1:00 and 6:00 PM and a normal distribution was used to determine the peak hour impact (2 standard deviations, 68% of the total during this timeframe).

Trip generation is based on averages and not maximums. The table below represents a very reasonable average to be considered for this unique facility.

Proposed Trip Generation Est	timates			
Meditation Center	Trips		Trips	
(ITE Code N/A)		Total	Enter	Exit
			100%	0%
Daily ¹	92	92	92	0
			100%	0%
PM Peak Hour	30	30	30	0
			0%	100%
AM Peak Hour	50	50	0	50
			0%	100%
Sunday Daily	92	92	0	92

Estimated Trip Distribution and Assignment

The site trip distribution is based upon existing traffic counts as well as engineering judgment and knowledge of the area. During the peak hours volumes split approximately 75% from the north and 25% from the south along Watsonville Road.

¹ The term "Daily" here, just like the Peak Hours, is used for analysis purposes only and does not represent the actual condition of only 4 days per month when these numbers will be reached.

The site is estimated to generate approximately 30 PM Peak hour trips and 50 AM Peak hour trips coming or going from the site. The trip distribution and assignment, along with existing turning movement counts are included at the end of this report and are listed as Figures 1-2 through 1.7.

Parking Analysis

The project's proposed site plan has 96 parking spaces shown which includes 10 handicap spaces. A loading zone is provided in front of the Kitchen/Dining Hall as well. Normally one would use a reference like the ITE Parking Generation Manual to determine the recommended number of parking stalls to serve a development. Because of the nature of this project there is not good reference documents available to provide a direct recommendation. At the same time there are several sites in California providing the same service and therefore can be a reliable source of data to contrast with ITE data and determine the adequate number of parking stalls needed.

The ITE Parking Generation Manual, 4th Edition, has several uses based on units like dwelling units, occupied rooms, employees, students and attendees. Using 150 for each of these units can provide some insight into the number of parking spaces that each would require on a peak day (like Sunday for a Church) and includes both an average and 85th percentile for occupied stalls.

	Total Stalls	o Occupie	ed in Peak Po	eriod
Description/ITE Code		Units	Average	85 th Percentile
Church 560	Attendees	150	67.5	90
Synagogue 561	Attendees	150	61.5	
Office Building 701	Employees	150	124.5	147
University/College, Suburban 550	School Population	150	49.5	57
High School, Suburban 530	Students	150	34.5	37.5
Hotel, Suburban 310	Occupied Rooms	150	180	231
Low/Mid-Rise Apartment, Suburban	Dwelling Units	150	184.5	291
221				
Customer Provided Data	Students/Volunteers	150	92	92

The above table shows a significant difference in peak parking demand for various uses that involves students, attendees, employees and living facilities. Customer supplied data falls in the middle of average peak period and doesn't change over the duration of the 10-day courses. The supplied data is adequate and reasonable considering the very specific use and how it contrasts with other development types supplied by ITE. Therefore the 96 parking spaces will adequately meet the needs of the site and no further recommendations are required.

Recommendation

The proposed development generates 30 PM Peak hour and 50 AM Peak hour trips on the days when students are coming or going from the site (on average four days per month, two Wednesdays and two Sundays). This volume is very low and would not warrant an analysis at any controlled or uncontrolled intersection near the project following Santa Clara County requirements of 100 peak hour trips as a threshold for analysis. The threshold is stated on Page 6 of the Santa Clara Valley

Transportation Authority Transportation Impact Analysis Guidelines dated October 2014. Critical movements entering and exiting the site are very low and do not warrant turn lane analysis.

As part of our review of this project we also recommend the driveway be allowed on Redwood Retreat Road instead of El Matador Drive. The close proximity of El Matador Drive and Redwood Retreat Road with the intersection of Redwood Retreat Road and Watsonville Road dictates that a driveway on El Matador Drive is not ideal. A site distance analysis was performed for a driveway approximately 500-feet northwest of El Matador Drive and the driveway meets CALTRANS requirements at this location.

Syncrho 10 was used to analyze the intersection of Watsonville Road and Redwood Retreat Road; Redwood Retreat Road and El Matador Drive; and Redwood Retreat Road and the proposed driveway. Under existing and build conditions level of service (LOS) is more than adequate. Traffic volumes are very low on both El Matador Drive and Redwood Retreat Road and Watsonville Road is moderately busy during the peak hours. All intersections show that the existing traffic controls are operating well within reasonable LOS with most movements operating at LOS A or B. Only two movements operate at LOS C.

The project does not negatively impact any of the surrounding roadways and a conditional use permit should not be withheld due to traffic concerns. Further, access should be allowed on Redwood Retreat Road to best serve the site and the surrounding community.

Thank you and if you have any comments or questions, please let me know.

Sincerely,

Alex Georgevitch, P.E.

Attachments: Proposed Site Plan

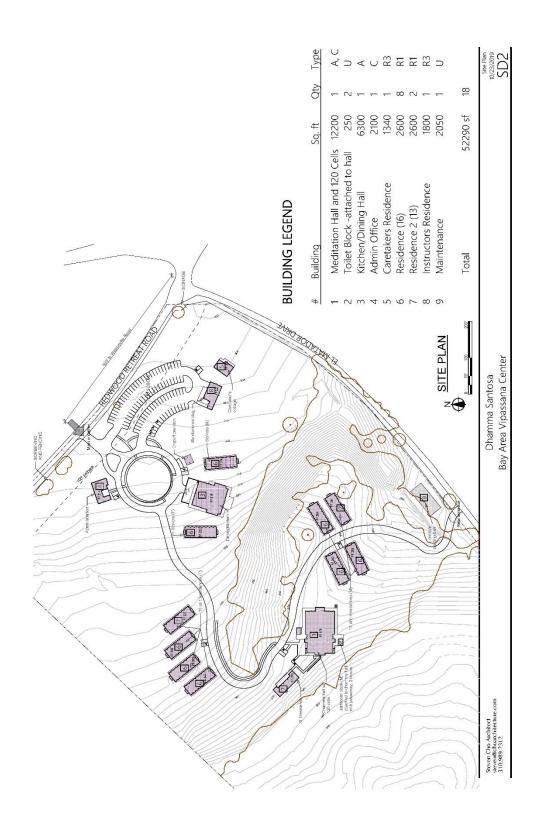
Traffic Counts

Trip Generation Summary Turning Movement Figures

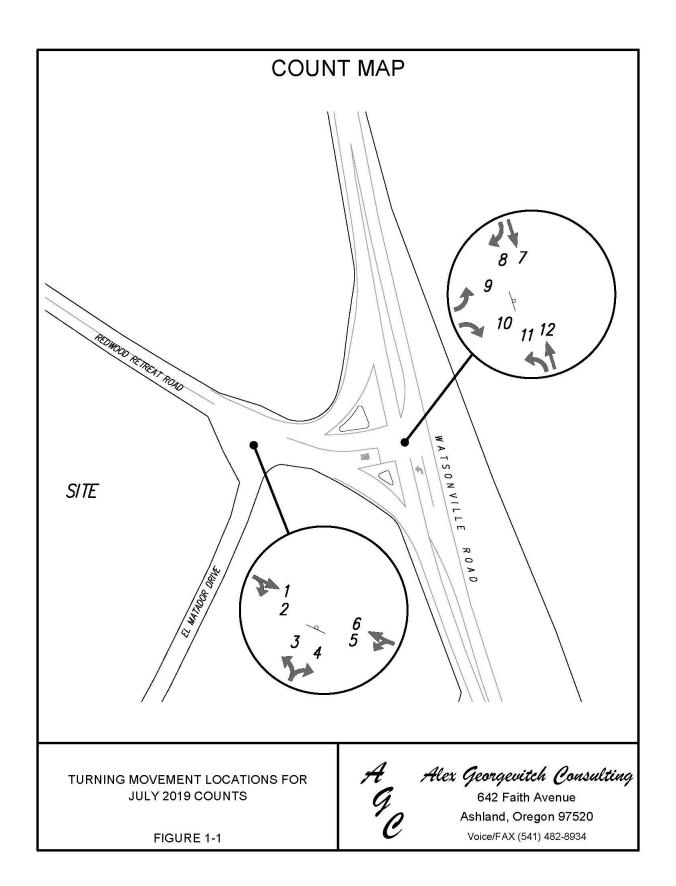
Synchro Outputs

Proposed Driveway Site Distance Analysis

Proposed Site Plan



Turning Movement Locations for Counts



Mid-Week Traffic Count Data

Time	Movemen	nt Number							Coun	t Taken We	dnesday 7/	17/19
AM Peak	1	2	3	4	5	6	7	8	9	10	11	12
7:00	3	0	0	0	0	5	18	2	2	1	3	54
7:15	4	0	0	0	0	2	19	1	4	0	1	84
7:30	1	4	0	0	0	7	22	3	2	2	4	59
7:45	6	1	0	3	0	7	14	3	5	6	4	72
8:00	3	0	0	0	0	4	17	4	1	2	0	51
8:15	5	0	0	1	0	4	29	3	4	2	1	56
8:30	7	0	0	1	0	0	30	0	6	2	0	53
8:45	6	0	0	3	1	4	30	2	3	5	4	38
2-Hour Total	35	5	0	8	1	33	179	18	27	20	17	467
1-Hour Peak	14	5	0	3	0	20	72	11	12	10	9	266
PHF by Movement		0.31	N/A	0.25	N/A	0.71	0.82	0.69	0.60	0.42	0.56	0.79
THE BY WIOVEINENCE	0.00	0.01	1971	0.25	11/11	0.71	0.02	0.03	0.00	0.12	0.50	0.75
PM Peak												
4:00	2	0	0	0	1	7	104	4	0	2	4	25
4:15	4	0	0	1	0	8	119	4	2	1	4	29
4:30	6	0	0	2	1	1	115	2	6	4	0	25
4:45	4	0	0	0	0	6	135	3	2	2	3	41
5:00	7	0	0	1	0	5	126	5	3	5	0	37
5:15	2	0	0	1	1	7	158	4	3	2	2	41
5:30	3	0	0	0	0	4	93	1	2	1	3	43
5:45	4	0	0	0	1	5	127	2	4	0	4	29
2-Hour Total	32	0	0	5	4	43	977	25	22	17	20	270
	19				2	19	534			13	5	
1-Hour Peak	0.68	0 N/A	0 N/A	0.50	0.50	0.68	0.84	14 0.70	14 0.58	0.65	0.42	144 0.88
PHF by Movement	0.68	N/A	N/A	0.50	0.50	0.68	0.84	0.70	0.58	0.65	0.42	0.88

Road Book

Manual Count

Redwood Retreat 490 ADT 2011 Count
Watsonville Road 3090 ADT 2013 Count

PM Split 78% SB / 22% NB AM Split 22% SB / 78% NB
 38 PM Peak
 34 AM Peak
 380 ADT Calculated

 724 PM Peak
 380 AM Peak
 7240 ADT Calculated

Sunday Traffic Count Data

Time	Movemer	nt Number							Coun	nt Taken We	dnesday 7/	17/19
AM Peak	1	2	3	4	5	6	7	8	9	10	11	12
7:00	1	0	0	0	0	1	9	1	0	1	0	11
7:15	1	0	0	0	0	1	7	1	1	0	0	10
7:30	1	0	0	0	0	2	11	2	1	0	0	16
7:45	1	0	0	0	0	0	12	0	0	1	0	16
8:00	3	0	0	0	0	0	12	0	1	1	0	21
8:15	3	0	0	1	0	0	11	0	2	2	0	23
8:30	2	0	0	0	0	1	9	1	1	1	0	17
8:45	5	0	0	1	0	1	28	0	2	4	1	29
9:00	2	0	0	2	1	2	23	1	3	1	2	19
9:15	7	0	0	1	1	2	37	2	1	7	1	19
9:30	4	0	0	1	1	2	33	2	3	2	1	21
9:45	4	0	0	1	0	0	38	1	4	0	0	17
	S.V.							545				
3-Hour Total	34	0	0	7	3	12	230	11	19	20	5	219
1-Hour Peak	17	0	0	5	3	6	131	6	11	10	4	76
PHF by Movement	0.61	N/A	N/A	0.63	0.75	0.75	0.86	0.75	0.69	0.36	0.50	0.90

Road Book Manual Count

Redwood Retreat 490 ADT 2011 Count 23 AM Peak 230 ADT Calculated Watsonville Road 3090 ADT 2013 Count 238 AM Peak 2380 ADT Calculated

Trip Generation for Development

Trip Generation for Bay Area Vipassana

92 Cars Average per session Mid-Week (Wednesday) Arrival 20 Cars before 1:00 PM 65 Cars between 1:00-6:00 PM 7 Cars after 6:00 PM

Assume a Normal Distribution during the PM Peak Hour 68% is equivallent to one standard deviation each side of mean 44 Cars during 4:00-6:00 PM Assume 30 /14 split for Peak Hours

Sunday Departure 90 Cars Before 9:00 AM 2 Cars After 9:00 AM

Assume 50 / 40 Split for Peak Hours

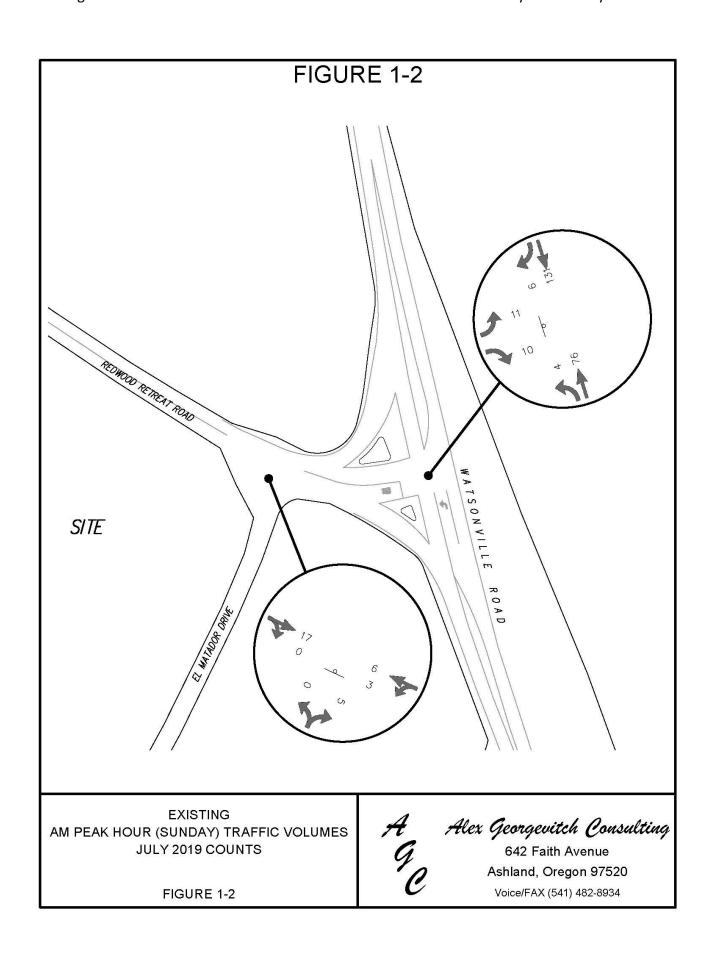
Drive time to San Jose almost identical using Watsonville Road or Hecker Pass Hwy.

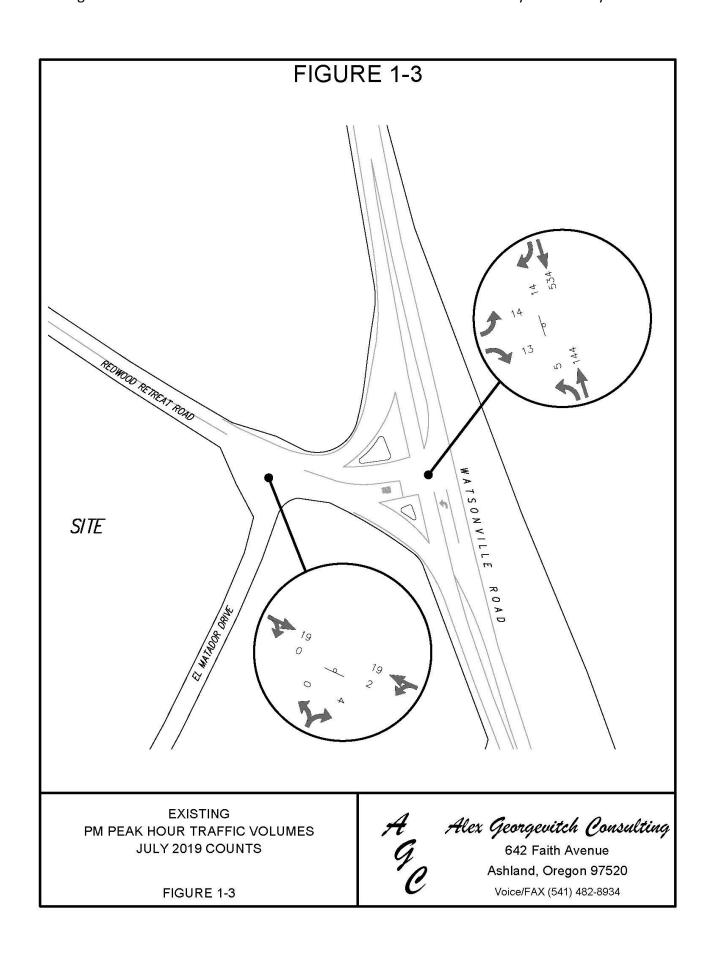
 PM Peak Hour
 30 Left Turn
 7 Right Turn
 23

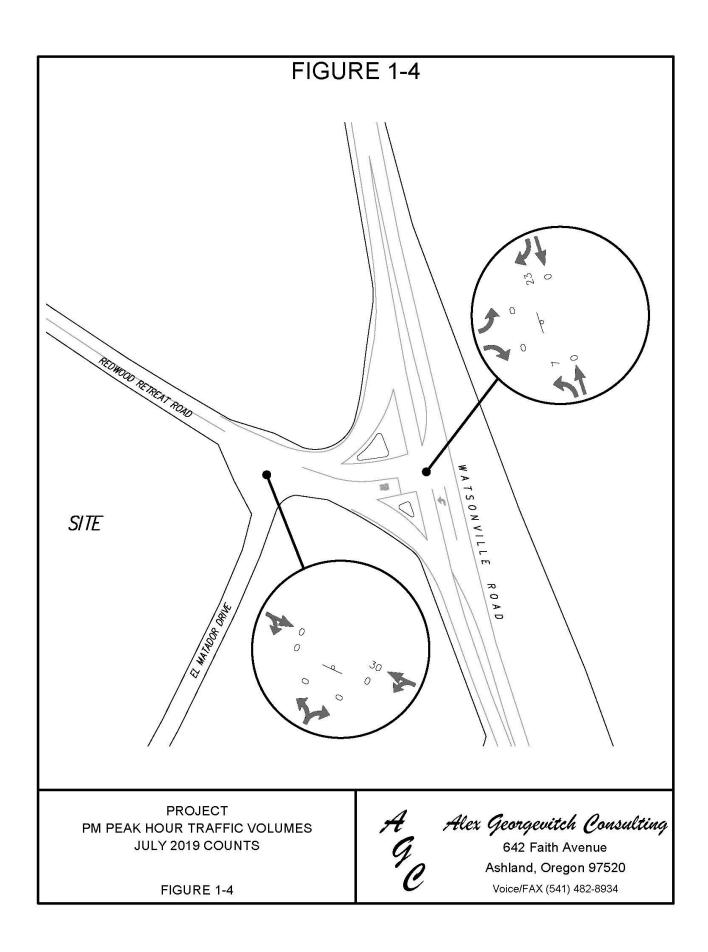
 AM Peak
 50 Left Turn
 39 Right Turn
 11

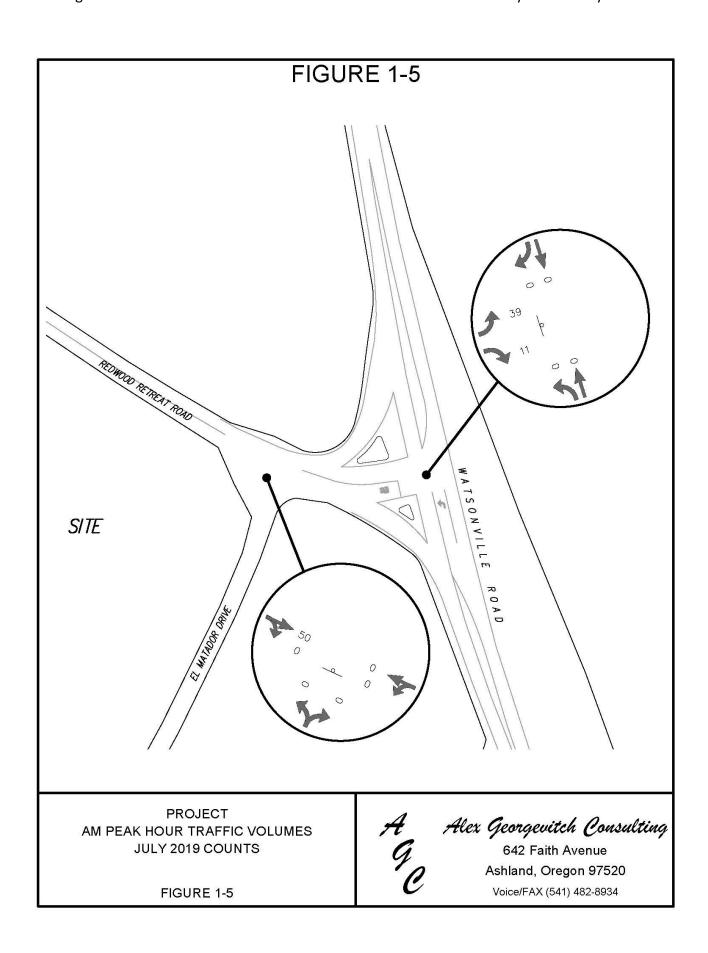
Existing and Existing + Project Turning Movement Exhibits

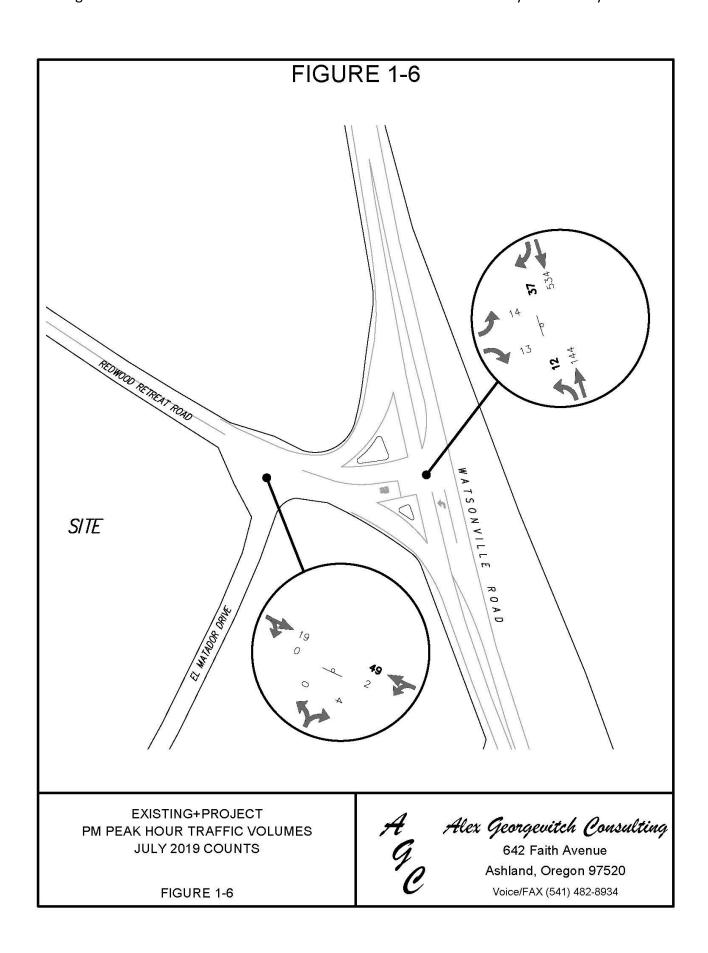
Figures 1-2 through 1.7

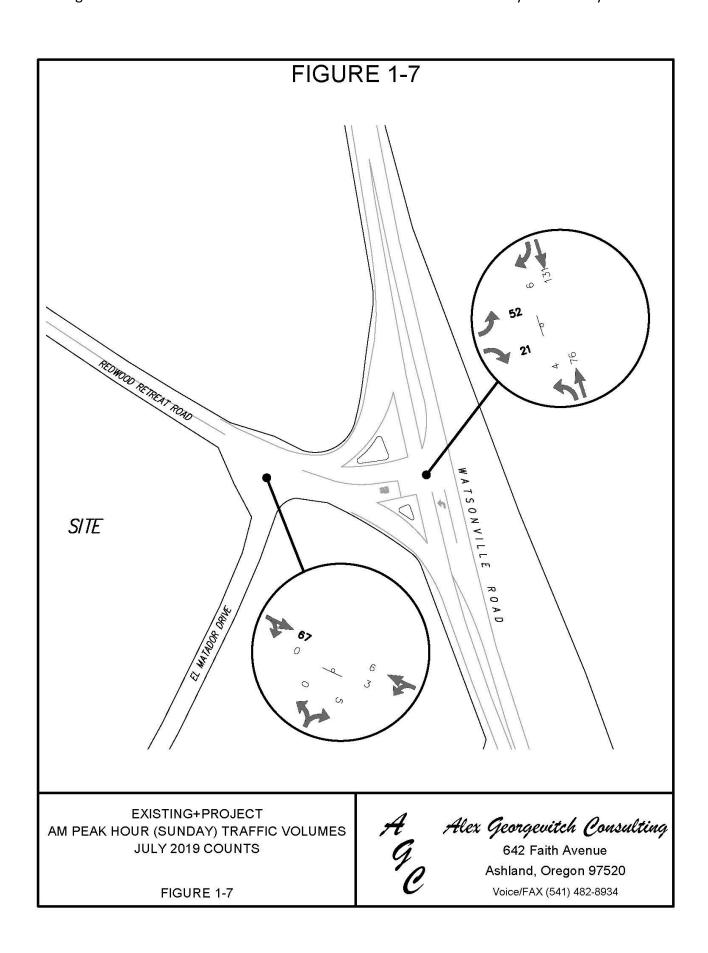












AM Peak Hour Sunday Synchro Analysis

HCM 6th TWSC 3: Watsonville Road & Redwood Retreat Road

07/24/2019

=							
Intersection							
Int Delay, s/veh	1.7						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7		T	1	1	ODIN	
Traffic Vol, veh/h	13		5	76	131	10	
Future Vol, veh/h	13		5	76	131	10	
Conflicting Peds, #/hr	0		0	0	0	0	
Sign Control	Stop	1000	Free	Free	Free	Free	
RT Channelized	Stop	1201500	manufacture of the lands	None	Free		
Storage Length	0	12 1 1 1 to 1	70	Ivone	-	Ivone	
Veh in Median Storage	The second second		1000	0	0	-	
Grade, %	0		100	0	0	- 17	
Peak Hour Factor	69		50	90	86	75	
	2		2	2	2	2	
Heavy Vehicles, %	19		10	84	152	13	
Mvmt Flow	19	20	10	04	132	13	
Major/Minor	Minor2	ĬII	Major1		Major2		
Conflicting Flow All	263	159	165	0	200	0	
Stage 1	159						
Stage 2	104	-	-	-	-		
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Howy Stg 1	5.42			- 2	- 0	2	
Critical Howy Stg 2	5.42		-	2	2	- 2	
Follow-up Hdwy	3.518		2.218	-	2	12	
Pot Cap-1 Maneuver	726	886	1413	_	-	-	
Stage 1	870		-	-	-		
Stage 2	920			-	-	-	
Platoon blocked, %	010			-	-	-	
Mov Cap-1 Maneuver	721	886	1413	_		10	
Mov Cap-2 Maneuver	721	-	-	2	- 42	- 12	
Stage 1	864			- 4	9	33	
Stage 2	920					- 2	
Stage 2	320		-		-		
garante garante	755000		7000000		2000		
Approach	EB		NB		SB		
HCM Control Delay, s			0.8		0		
HCM LOS	Α						
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	EBLn2	SBT	
Capacity (veh/h)	17.1	1413			886		
HCM Lane V/C Ratio		0.007		0.026		2	
HCM Control Delay (s	1	7.6	-	10.1	9.2	-	
HCM Lane LOS		A	-	В	A	-	
HCM 95th %tile Q(vel	1	0		0.1	0.1		
TION JOST YORK ON VE	ry.	V		V. I	V. I	- 15	

AM Peak Hour 07/24/2019 Baseline

HCM 6th TWSC 6: El Matador & Redwood Retreat Road

07/24/2019

(a)						
Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	†			^	Y	
Traffic Vol, veh/h	17	0	3	12	0	7
Future Vol, veh/h	17	0	3	12	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized			LINCOS			None
Storage Length	- 12	-	- 12	-	0	-
Veh in Median Storage,	# 0	-	- 1	0	0	0
Grade, %	0	-		0	0	-
Peak Hour Factor	61	61	75	75	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	28	0	4	16	0	11
MAUNTION	20	U		10	v	- 11
Tion to the same of the same o			Marine de la companya della companya della companya de la companya de la companya della companya		NOTE:	
	Major1		Major2		Minor1	
Conflicting Flow All	0	2	28	0	52	28
Stage 1	+		- 3	27	28	
Stage 2	-		14	S-	24	1000
Critical Hdwy	-	-	4.12		6.42	6.22
Critical Howy Stg 1	- 2	- 2	92	92	5.42	1
Critical Howy Stg 2		- 2		12	5.42	-
Follow-up Hdwy	2	9	2.218	84	3.518	3.318
Pot Cap-1 Maneuver	+	0	1585	- 12	957	1047
Stage 1	-	0	7-	5-	995	-
Stage 2	_	0	-	-	999	200
Platoon blocked, %	-	~			000	
Mov Cap-1 Maneuver	- 2	- 2	1585	- 12	954	1047
Mov Cap-2 Maneuver	2	2	1000	12	954	
Stage 1	- 2	- 12	10	32	995	1823
Stage 2	2	/2	12	62	996	-
Stage 2		(2)	2.7		220	
Maria American	10111				-	
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.5		8.5	
HCM LOS					Α	
Minor Lane/Major Mvm		NBLn1	EBT	WBL	WRT	5
			EDI	1585	COLUMN TO SERVICE STREET	
Capacity (veh/h)		1047	- 12		- 14	
HCM Lane V/C Ratio		0.011	7	0.003	94	
HCM Control Delay (s)		8.5	- 1	7.3	- 67	
HCM Lane LOS	50	A		A	87	
HCM 95th %tile Q(veh)	0	- 5	0		

AM Peak Hour 07/24/2019 Baseline Synchro 10 Report Page 2

HCM 6th TWSC

7: Proposed Driveway & Redwood Retreat Road

07/24/2019

Ø.						
Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	+		1100	1	Y	11011
Traffic Vol., veh/h	17	0	0	12	0	0
Future Vol, veh/h	17	Ő	0	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	Free	CHG0000000	Free		Stop	THE RESERVE OF THE PERSON NAMED IN
Description of the last of the	-	Ivone	-	Ivone	0	Ivone
Storage Length	157		14	0	0	-
Veh in Median Storage, #					-	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	61	61	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	0	0	20	0	0
11 01	A	3		- 6		
	lajor1		Major2		Minor1	
Conflicting Flow All	0	- 1	-	92	48	28
Stage 1	+		- 15		28	
Stage 2	-	8	7+	6-	20	-
Critical Hdwy	-	15	-		6.42	6.22
Critical Howy Stg 1	-	- 2	92	82	5.42	25
Critical Howy Stg 2	- 2	- 2	- 2	- 1	5.42	
Follow-up Hdwy	- 2	(2)	- 52	84	3.518	3.318
Pot Cap-1 Maneuver	125	0	0	- 12	962	1047
Stage 1	-	0	0		995	1041
Stage 2		0	0	-	1003	-
20 Carlot Co. Co. Co. Co. C.	100	U	0		1003	150
Platoon blocked, %	- 5			- 10-	222	1017
Mov Cap-1 Maneuver	2	123	12	172	962	1047
Mov Cap-2 Maneuver	2	- 2	- 2	92	962	-
Stage 1	- 2	- 2	- 2	14	995	-
Stage 2	8	48	(7	92	1003	(4)
Annenack	EB		WP		NB	
Approach			WB			
HCM Control Delay, s	0		0		0	
HCM LOS					Α	
Minor Lane/Major Mvmt	1	NBLn1	EBT	WBT	8	
Capacity (veh/h)		-		1000		
HCM Lane V/C Ratio			-	92		
HCM Control Delay (s)		0	-	- 07		
HCM Lane LOS		Α		-		
HCM 95th %tile Q(veh)						

Synchro 10 Report Page 3 AM Peak Hour 07/24/2019 Baseline

AM Peak Hour Sunday With Development Synchro Analysis

HCM 6th TWSC

3: Watsonville Road & Redwood Retreat Road

07/24/2019

3.6						
EBL	EBR	NBL	NBT	SBT	SBR	
7	1	7	↑	1	- Control of the Control	
52	21	5	76	131	10	
52	21	5	76	131	10	
0	0	0	0	0	0	
Stop	Stop	Free	Free	Free	Free	
-	Stop	-	None		None	
0	0	70	-			
,# 0	- 4	1	0	0		
0		-	0	0	128	
69	36	50	90	86	75	
2	2	2	2	2	2	
75	58	10	84	152	13	
					-	
15000		Maint	- 1	14-12-2		
					٥	
	N. T. LOUIS	2000000				
			-	-	-	
				395	2.50	
			127	12.7	1.70	
	2 210	2 240	1.5	100	- 33	
			544	260		
		7.77	_			
		12	9.4			
920	-	- 3	7.4			
704	000	4440	87	84		
			- 17	- 15	•	
			- 27	27	- 175	
			- 27	- 17		
920	2	12		-	-	
EB		NB		SB		
		0.0				
4	NIDI	AIDT	EDI 1	EDI O	COT	000
K.		MRI				SBR
					14554	- (-
*	The second second	-	and the second second			(62)
)	200	- 12	00000	77.55		112
						8. 4 3
1)	0		0.3	0.2	-	
	52 52 52 0 Stop 0 69 2 75 Minor2 263 159 104 6.42 5.42 5.42 3.518 726 870 920	EBL EBR 52 21 52 21 0 0 0 Stop Stop	EBL EBR NBL 52 21 5 52 21 5 0 0 0 0 Stop Stop Free - Stop - 0 0 70 # 0 69 36 50 2 2 2 2 75 58 10 Minor2 Major1 263 159 165 159 104 6.42 6.22 4.12 5.42 5.42 3.518 3.318 2.218 726 886 1413 870 920 721 886 1413 721 864 920 EB NB 10 0.8 B nt NBL NBT 1413 - 0.007 - A -	EBL EBR NBL NBT 52 21 5 76 52 21 5 76 0 0 0 0 0 0 Stop Stop Free Free - Stop - None 0 0 70 - ,# 0 0 69 36 50 90 2 2 2 2 2 75 58 10 84 Minor2 Major1 263 159 165 0 159 104 6.42 6.22 4.12 - 5.42 5.42 5.42 5.42 5.42 726 886 1413 - 870 726 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 920 721 886 1413 - 870 920 T21 886 1413 - 870 920 T21 886 1413 - 870 920 T21 886 1413 - 870 920 721 886 1413 - 726 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 870 721 886 1413 - 721 864 920 721 886 1413 - 721 864 920 864 920 721 886 1413 - 721 864 920 721 886 1413 - 721 864 920 721 886 1413 - 721 864 920 886 1413 - 721 886 920 886 1413 - 721 886 920 886 1413 - 721 886 920 886 920 886 1413 - 721 886 920 886 1413 886 920 886 1413 886 920 886 1413 886 920 886 1413 886 920 886 1413 -	EBL EBR NBL NBT SBT 1	BBL BBR NBL NBT SBT SBR S52 21 5 76 131 10 10 10 10 10 10 1

AM Peak Hour 07/24/2019 Baseline Synchro 10 Report Page 1

HCM 6th TWSC 6: El Matador & Redwood Retreat Road

07/24/2019

Intersection						
Int Delay, s/veh	0.9					
14-0-0-0-4-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	7,777.1	EBR	WDI	WOT	NDI	NDD
Movement	EBT	EBK	WBL	WBT	NBL	NBR
Lane Configurations		۸	2		-	7
Traffic Vol, veh/h	67	0	3	12	0	7
Future Vol, veh/h	67	0	3	12	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- 2	110110		1.10110	- 0	None
Storage Length	-	-		-	0	-
Veh in Median Storage, #		2	- 2	0	0	- 12
Grade, %	0	-	- 3	0	0	
Peak Hour Factor	61	61	75	75	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	0	4	16	0	11
u ne	10 T		TO SO A	- 4		
	lajor1		Major2		Vinor1	440
Conflicting Flow All	0	2	110	.0	134	110
Stage 1	20	2	- 2	- 0	110	- 12
Stage 2	\$1	-	-	-	24	-
Critical Hdwy	-	0	4.12	12	6.42	6.22
Critical Hdwy Stg 1	7	7.5	:=	7.5	5.42	127
Critical Howy Stg 2		-	-		5.42	
Follow-up Hdwy	70	-	2.218		3.518	3.318
Pot Cap-1 Maneuver	- 2	0	1480	- 10	860	943
Stage 1	25	0	12	12	915	- 22
Stage 2	- 8	0	1	2	999	3,2
Platoon blocked, %	-0			54		
Mov Cap-1 Maneuver	-	-	1480	-	857	943
Mov Cap-2 Maneuver			1400	-	857	010
Stage 1		- 32			915	- 27
	- 3	- 0	- 6	- 1	996	- 5
Stage 2					330	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.5		8.9	
HCM LOS			1.0		A	
TIOM EOU					63	
Minor Control of the			-	NAME OF TAXABLE PARTY.		
Minor Lane/Major Mvmt	1	VBLn1	EBT	WBL	WBT	
Capacity (veh/h)		943	- 7	1480		
HCM Lane V/C Ratio		0.012	2	0.003	20	
HCM Control Delay (s)		8.9		7.4	- 4	
HCM Lane LOS		Α	2	Α	- 3	
HCM 95th %tile Q(veh)		0	-	0	19	

AM Peak Hour 07/24/2019 Baseline Synchro 10 Report Page 2

HCM 6th TWSC

7: Proposed Driveway & Redwood Retreat Road

07/24/2019

Intersection						
Int Delay, s/veh	5.4					
	5332		10.000	10.000	AID	Neme
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			†	Y	
Traffic Vol, veh/h	17	0	0	12	0	50
Future Vol, veh/h	17	0	0	12	0	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None		None		None
Storage Length	-	15.		9-	0	
Veh in Median Storage, #	0	- 5		0	0	-
Grade, %	0		- 2	0	0	-
Peak Hour Factor	61	61	61	61	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	28	0	0	20	0	79
MINIST INW	20	Ų.	·V	20	V	1.0
	lajor 1		Major2		Minor1	
Conflicting Flow All	0	15		-	48	28
Stage 1		- 2	- 2	- 12	28	
Stage 2	(25)	12		52	20	-
Critical Hdwy	2	1	2	14	6.42	6.22
Critical Howy Stg 1	(-)	3+	8-	8.	5.42	
Critical Howy Stg 2	-	-	-		5.42	(+)
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	_	0	0		962	1047
Stage 1	- 1	0	0	- 6	995	1041
Stage 2	-	0	0	- 42	1003	-
Platoon blocked, %	_	U	U	94	1003	
Mov Cap-1 Maneuver	-				962	1047
	- 6		- 6		10000	
Mov Cap-2 Maneuver	7.5		- 12	107	962	1,70
Stage 1	-		- 5	1.5	995	
Stage 2	70			- 25	1003	
Approach	EB		WB		NB	
	0		0		8.7	
HCM Control Dolare o			U		ο./	
HCM Control Delay, s						
HCM Control Delay, s HCM LOS					А	
	_				^	
HCM LOS	Š	NBLn1	EBT	WBT	^	
HCM LOS Minor Lane/Major Mvmt	Š	NBLn1 1047	EBT	WBT	^	
Minor Lane/Major Mvmt Capacity (veh/h)	Š	1047			^	
Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio	Š	1047 0.076		1.7	^	
Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)	Š	1047 0.076 8.7	-		^	
Minor Lane/Major Mvmt Capacity (veh/h) HCM Lane V/C Ratio	Š	1047 0.076	-		^	

AM Peak Hour 07/24/2019 Baseline Synchro 10 Report PM Peak Hour Sunday Synchro Analysis

HCM 6th TWSC

3: Watsonville Road & Redwood Retreat Road

07/24/2019

8							
Intersection							
Int Delay, s/veh	0.9						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	1	7	†	1		
Traffic Vol, veh/h	14	13	5	144	534	14	
Future Vol. veh/h	14	13	5	144	534	14	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	Stop	-		-		
Storage Length	0	0	70	-	-	-	
Veh in Median Storage,		i i	1111	0	0	- 1	
Grade, %	0	2	2	0	0	102	
Peak Hour Factor	58	65	42	88	84	70	
Heavy Vehicles, %	2	2	2	2	2	2	
Mymt Flow	24	20	12	164	636	20	
WALLEY W.	2-1	LV	14	104	900	LV	
A DOCUMENT OF THE PARTY OF THE							
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	834	646	656	0	42	0	
Stage 1	646	-	-	- 2	9	100	
Stage 2	188	-	-	्रंड	<u> </u>	153	
Critical Hdwy	6.42	6.22	4.12	0	- 9	74	
Critical Hdwy Stg 1	5.42	7		- 1	1.5	100	
Critical Hdwy Stg 2	5.42	-	-			1.5	
Follow-up Hdwy	3.518	3.318	2.218	-		- 12	
Pot Cap-1 Maneuver	338	472	931	-	- 2	1/2	
Stage 1	522	2	12	- 2	12	52	
Stage 2	844	2	1	2	- 2	32	
Platoon blocked, %	-71000			-	-	84	
Mov Cap-1 Maneuver	334	472	931				
Mov Cap-2 Maneuver	334	-	35			27	
Stage 1	515	-	-	-	-	97	
Stage 2	844	0	- 5	- 8	- 6	82	
Approach	EB		NB		SB		
HCM Control Delay, s			0.6		0		
HCM LOS	C		0.0		U		
LICINI FOS	U						
A SECONDARIO DE LA COMPANSIONA DEL COMPANSIONA DE LA COMPANSIONA D	TV.	-	1200000			1000000	
Minor Lane/Major Mvm	Yt.	NBL	NBT	EBL ₁ 1		SBT	SBR
Capacity (veh/h)		931	-	334	472	- 97	-
HCM Lane V/C Ratio		0.013	2		0.042	32	-
HCM Control Delay (s))	8.9		16.6	13	- 12	- 4
HCM Lane LOS		Α	-	C	В	<u> </u>	548
HCM 95th %tile Q(veh	1)	0		0.2	0.1	74	
	1						

Baseline Synchro 10 Report

HCM 6th TWSC 6: El Matador & Redwood Retreat Road

07/24/2019

Intersection Int Delay, s/veh	1.2					
	0,500					
Movement		EBR	WBL	WBT	NBL	NBR
Lane Configurations	†	-		†	Y	
Traffic Vol, veh/h	19	0	2	19	0	4
Future Vol, veh/h	19	0	2	19	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	- 2	- 12	12	-	0	16
Veh in Median Storage, #	0	2	14	0	0	
Grade, %	0		94	0	0	-
Peak Hour Factor	68	92	50	50	92	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	0	4	38	0	8
tonomina de de de la companya del companya del companya de la comp			-			
Major/Minor N	Najor1	- 1	Major2	- 21	Minor1	
	_				LAMPS OF STREET	20
Conflicting Flow All	0	-	28	0	74	28
Stage 1		- 3		-	28	
Stage 2	(+)	-	4.40		46	- 00
Critical Hdwy	*	- 15	4.12	-	6.42	6.22
Critical Hdwy Stg 1	17	- 17	- 17	-	5.42	157
Critical Hdwy Stg 2	- 7		- 27	-	5.42	- (-
Follow-up Hdwy	23		2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	1585	-	930	1047
Stage 1	~	0	- 1	1,23	995	
Stage 2		0	74	-	976	14-
Platoon blocked, %	- (5)			1970		
Mov Cap-1 Maneuver	-		1585		927	1047
Mov Cap-2 Maneuver	-	-	-		927	
Stage 1	- 6	1			995	
Stage 2	12	12	5.5	120	973	172
Ougo 2					313	
4	1000		2000		W. State	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.7		8.5	
HCM LOS					Α	
Minor Lane/Major Mvmt		NBLn1	EBT	WBL	WBT	3
Capacity (veh/h)		1047	LDI	1585	,,,,,,,	1
Capacity (Venin)		0.008	52	0.003		
HCM Land MC Date		U.UKAO	20.0	and the part transfer from the		
HCM Castel Dalay (a)				7.0		
HCM Control Delay (s)		8.5	14	7.3	4	
THE PROPERTY OF THE PROPERTY O			1	7.3 A		

Synchro 10 Report Page 2 Baseline

HCM 6th TWSC

7: Proposed Driveway & Redwood Retreat Road

07/24/2019

-						
Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	^	7120.00	112722	†	Y	
Traffic Vol, veh/h	19	0	0	19	0	0
Future Vol, veh/h	19	0	0	19	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None				CONTRACTOR OF THE PARTY OF THE
Storage Length				-	0	
Veh in Median Storage,	# 0	2	1	0	0	1 2
Grade, %	0		152	0	0	0.41
Peak Hour Factor	68	68	50	68	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mymt Flow	28	0	0	28	0	0
NIVINI IOW	20	U	U	20	U	V
Major/Minor	Major1	- 3	Major2	3	Minor1	
Conflicting Flow All	0	- 6	Wajorz		56	28
Stage 1	-	55		- 1	28	20
Stage 2	-		103	1.2	28	925
In the Late of the Control of the Co	-	10			6.42	6.22
Critical Holey			94	-	5.42	
Critical Hdwy Stg 1		- 12	10-	1971		3.7
Critical Hdwy Stg 2		- 5	- 2		5.42	0.040
Follow-up Hdwy	- T		-		3.518	3.318
Pot Cap-1 Maneuver	2	0	0	1000	952	1047
Stage 1	12	0	0	-	995	
Stage 2	2	0	0	-	995	-
Platoon blocked, %	-				1000	
Mov Cap-1 Maneuver			100		952	1047
Mov Cap-2 Maneuver	-	-	97	-	952	15.00
Stage 1	-	-	- 12-	-	995	
Stage 2	- 2	- 12	- 12	-	995	121
100000000					10000	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS	U		v		A	
Minor Lane/Major Mvm	\$.	NBL ₁ 1	EBT	WBT	3	
	100	INDUNI	EDI	WDI		
Capacity (veh/h)		- 85	- 97	1556		
HCM Lane V/C Ratio		-	_	-		
HCM Control Delay (s)		0	- 2	-		
HCM Lane LOS		Α	152	(4)		
HCM 95th %tile Q(veh)	9	- 194	-		

Synchro 10 Report Baseline

PM Peak Hour Sunday With Development Synchro Analysis

HCM 6th TWSC

3: Watsonville Road & Redwood Retreat Road

07/21/2019

l A							
Intersection Int Delay, s/veh	1						
	-	2000	4/40	4700	72		
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	7	*	†	1	-0.7	
Traffic Vol, veh/h	14	13	12	144	534	37	
Future Vol, veh/h	14	13	12	144	534	37	
Conflicting Peds, #/hr	0	0	- 0	- 0	- 0	- 0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	Stop	70		*		
Storage Length	4 0	0	70	0	0	-	
Veh in Median Storage	,# 0	- 2		0	0	100	
Grade, %	58	65	42	0	84	70	
Peak Hour Factor	77.7		42		- 1000		
Heavy Vehicles, %	24	20	29	164	636	53	
Mvmt Flow	24	20	29	164	030	33	
		_					
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	885	663	689	0	35	0	
Stage 1	663		-		12		
Stage 2	222		12	97			
Critical Hdwy	6.42	6.22	4.12	- 52	32	- 53	
Critical Hdwy Stg 1	5.42	-	4	34	34	-	
Critical Hdwy Stg 2	5.42	-	64	94	94	(4)	
Follow-up Hdwy	3.518	3.318	2.218	87	6 .		
Pot Cap-1 Maneuver	315	461	905	1,0	1.7		
Stage 1	512	17	-	- 17	-		
Stage 2	815		1.7	-			
Platoon blocked, %	1000			62	62	-	
Mov Cap-1 Maneuver		461	905	19	7/4	-	
Mov Cap-2 Maneuver			7	154	()	100	
Stage 1	496		-	- 15	- 66	180	
Stage 2	815	8	- 12	57	5+	-	
Approach	EB		NB		SB		
HCM Control Delay, s			1.4		0		
HCM LOS	C		1.51		V		
1000	Ü						
Minor Lane/Major Mvn		NBL	NRT	EBL _n 1	EBI »2	SBT	SBR
Capacity (veh/h)	n.	905	IND	305	461	ODI	JON
The state of the s		0.032		2000	0.043	-	100
HCM Control Dolary (a	· ·	9.1		17.8	THE RESERVE AND ADDRESS OF THE PARTY OF THE	-	-
HCM Control Delay (s	1		- 5		13.2	2583	- 5335
HCM Lane LOS		0.1	Gr.	0.3	B	- 12	- 12
HCM 95th %tile Q(vel	1)	0.1	- 12	0.3	0.1	-	174

HCM 6th TWSC 6: El Matador & Redwood Retreat Road

07/21/2019

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	†	25-257	5000000	†	W	18020000
Traffic Vol, veh/h	19	0	2	49	0	4
Future Vol, veh/h	19	0	2	49	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	- 12	-	0	-
Veh in Median Storage, #	¥ 0		2	0	0	- 6
Grade, %	0	125	52	0	0	(44)
Peak Hour Factor	68	92	50	50	92	50
Heavy Vehicles, %	2	2	2	2	2	2
A CONTRACTOR OF THE PROPERTY O	28	0	4	98	0	8
Mvmt Flow	20	U	4	96	U	Ŏ
Major/Minor I	Major1		Major2	- 1	Minor1	
Conflicting Flow All	0	- 2	28	0	134	28
Stage 1	- 8	-	- 1	- 1	28	
Stage 2		14	54	5,4	106	(40)
Critical Hdwy	-	-	4.12	100	6.42	6.22
Critical Howy Stg 1	-		4.12	-	5.42	U.LL
Critical Howy Stg 2		- 172	-	-	5.42	
	- 1	- 8			3.518	3.318
Follow-up Hdwy			1585			material and a second
Pot Cap-1 Maneuver	-	0	-		860	1047
Stage 1	129	0	(2	153	995	949
Stage 2		0	- 9	-	918	-
Platoon blocked, %	7.5			100		
Mov Cap-1 Maneuver			1585	1.5	857	1047
Mov Cap-2 Maneuver		57	- 2	27		0.30
Stage 1	- 5	2	100	12	995	-
Stage 2	25	12	12	52	915	1920
1000000						
A	ED.		MID		NID	
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		8.5	
HCM LOS					Α	
Minor Lane/Major Mymt	1	NBLn1	EBT	WBL	WBT	V
Capacity (veh/h)		1047	-	1585	1101	
HCM Lane V/C Ratio		0.008		0.003	- 52	
HCM Control Delay (s)		8.5		7.3	92	
			-			
HCM Lane LOS		A	9	A	9.4	
HCM 95th %tile Q(veh)		0	- 15	0	35	

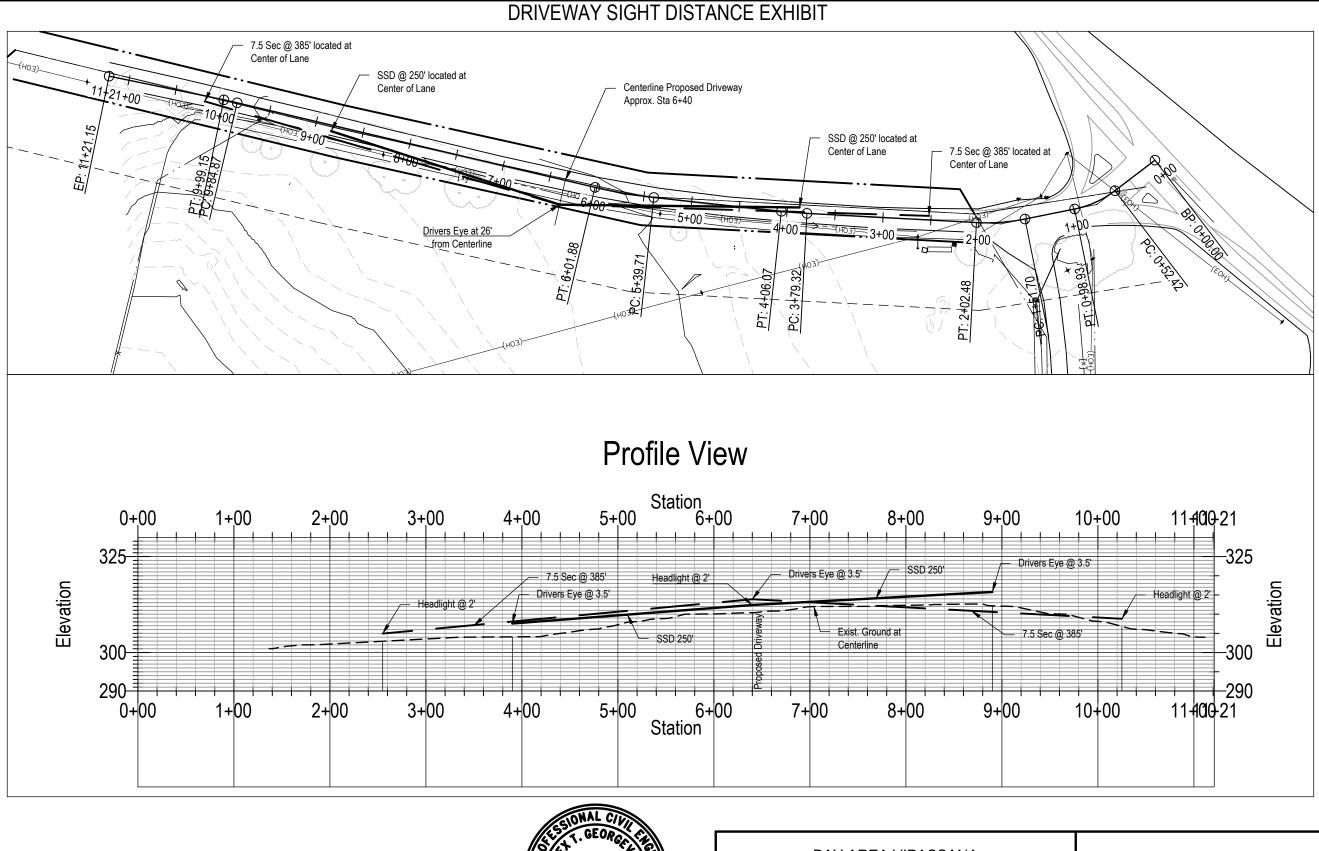
HCM 6th TWSC

7: Proposed Driveway & Redwood Retreat Road

07/21/2019

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	And Control	-	^	Y	THE PARTY OF THE P
Traffic Vol., veh/h	19	0	30	19	0	0
Future Vol., veh/h	19	0	30	19	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-		-		-	NO PERSONAL PROPERTY.
Storage Length	-	-	-		0	-
Veh in Median Storage,	# 0	- 2	- 0	0	0	- 23
Grade, %	0		. 32	0	0	1928
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	33	21	0	0
					-	
Major/Minor	Major1	- 1	Major2	3	Minor1	
Conflicting Flow All	0	- 0	21	0	108	21
Stage 1	0	25	- 21	-	21	21
Stage 2	125	- 2		103	87	- 28
		-	4.12	92	6.42	6.22
Critical Hdwy Critical Hdwy Stg 1	-	-	4.12	-	5.42	0.22
Critical Howy Stg 2	-				5.42	-
				17	3.518	3.318
Follow-up Hdwy	ur.	0	1595	- 14	889	1056
Pot Cap-1 Maneuver	2	0	- PAREL	-		77.00
Stage 1	2	0	12	52	1002	-
Stage 2	-	0	- 2	12	936	-
Platoon blocked, %	•		4505	87	070	AAFC
Mov Cap-1 Maneuver		-	1595		870	1056
Mov Cap-2 Maneuver		15	-	- 27	870	-
Stage 1	- 5			- 17	1002	
Stage 2	2	9	- 12	112	916	
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.5		0	
HCM LOS					Α	
Minor Lane/Major Mvn		NBLn1	EBT	WBL	WBT	
	ñ.	NDLNI.	EDI	1595	WDI	
Capacity (veh/h)					- 77	
HCM Lane V/C Ratio	ı.	0	- 0	0.02 7.3	12	
HCM Control Delay (s)	1					
HCM Lane LOS	3	Α		A	132	
HCM 95th %tile Q(veh	1)		9	0.1	7÷	

Proposed Driveway Site Distance Exhibit



BAY AREA VIPASSANA
PROPOSED DRIVEWAY SIGHT DISTANCE
GILROY SITE - 9201 EL MATADOR DRIVE

AGC

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