Michael Baker
INTERNATIONAL

FOCUSED TRAFFIC IMPACT ANALYSIS

Monserate Winery

PDS 2018-MUP 74-165w1
PDS2018 ER-18-02-003

Prepared for:
County of San Diego, Planning Development Services
5500 Overland Avenue
San Diego, CA 92123

April 24, 2019

REGISTERED PROFESSIONAL ENGINEER
DAWN L. WILSON
NO. 62562
EXP. 3/2020
CIVIL
STATE OF CALIFORNIA

ENV. LOG NO. PDS 2018-ER-18-02-003

5050 Avenida Encinas, Suite 260, Carlsbad, CA 92008
Office 760 476-9193 | Fax 760 476 9198
Contact robertdavis@mbakerintl.com
JN 160734

MBAKERINTL.COM

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF TABLES

APPENDICES

1 EXECUTIVE SUMMARY

This study analyzes the forecast traffic conditions associated with the proposed Monserate Winery in the Fallbrook Community Planning Area of unincorporated San Diego County. As part of the proposed winery, the project will include a tasting room, restaurant, and three separate event venues. The project is located on Gird Road north of SR-76 and south of Reche Road on the site of the old Fallbrook Golf Course. The proposed winery is projected to be built out and operational by Year 2020.

The proposed project is forecast to generate approximately 1,237 net new daily trips on a typical Saturday which includes approximately 232 PM peak hour trips. This analysis focuses on the typical peak operating conditions of the winery which occurs on a Saturday evening.

This study considers the level of service operations for intersections and roadways as well as the corner sight distance requirements at the project driveway.

Level of Service Analysis Results

Intersection Analysis

The results of the Existing conditions analysis show that all study intersections currently operate at acceptable levels of service (LOS B or better).

The results of the Opening Year 2020 conditions show that all study intersections are forecast to operate at acceptable levels of service (LOS B or better).

With the addition of project related traffic, all study intersections continue to operate at acceptable levels of service for the Opening Year 2020 With Project conditions.

Roadway Segment Analysis

The results of the Existing conditions analysis show that all study roadway segments currently operate at an acceptable level of service (LOS B or better) on a daily and peak hour basis.

The results of the Opening Year 2020 conditions show that all study roadway segments are forecast to operate at an acceptable level of service (LOS B or better) on a daily and peak hour basis.

With the addition of project related traffic, all study roadway segments continue to operate at acceptable levels of service on a daily and peak hour basis for the Opening Year 2020 With Project conditions.

Sight Distance Requirements

Based on County guidelines, the required sight distance that needs to be kept free of visual obstructions (i.e. monuments, landscaping, berms, etc.) for vehicles turning left from the project driveway onto northbound Gird Road is 450 feet. In addition, any tree canopy within the sight triangle should also be maintained at a level no less than 10 feet above the roadway at all times. The available sight distance is approximately 480 feet (measured along the path of travel). South of the project driveway, there is approximately 940 feet of available sight distance. Therefore, the available sight distance at the project driveway is greater than the minimum required by County guidelines in both the north and south direction on Gird Road.

2 INTRODUCTION

This study analyzes the forecast traffic conditions associated with the proposed Monserate Winery in the Fallbrook Community Planning Area of unincorporated San Diego County. As part of the proposed winery, the project will include a tasting room, restaurant, and three separate event venues. The project is located on Gird Road north of SR-76 and south of Reche Road on the site of the old Fallbrook Golf Course. The proposed winery is projected to be built out and operational by Year 2020. **Exhibit 1** shows the proposed site plan.

The proposed project is forecast to generate approximately 1,237 net new daily trips on a typical Saturday which includes approximately 232 net new PM peak hour trips. This analysis focuses on the typical peak operating conditions of the winery which occurs on a Saturday evening.

This traffic impact study has been prepared in accordance with the County of San Diego standards and guidelines as outlined in the following documents:

- County of San Diego Report & Content Requirements – Transportation & Traffic (August 2011)
- County of San Diego Guidelines for Determining Significance – Transportation & Traffic (August 2011)
- San Diego County Public Road Standards (March 2012)
- Guidelines for Transportation Impact Studies in the San Diego Region (draft – January 2019)

The scope of this traffic study was coordinated with County staff. **Appendix A** includes the Traffic Study Scoping Agreement.

2.1 STUDY AREA

This study evaluates the following three intersections during the PM peak hour in the vicinity of the project site:

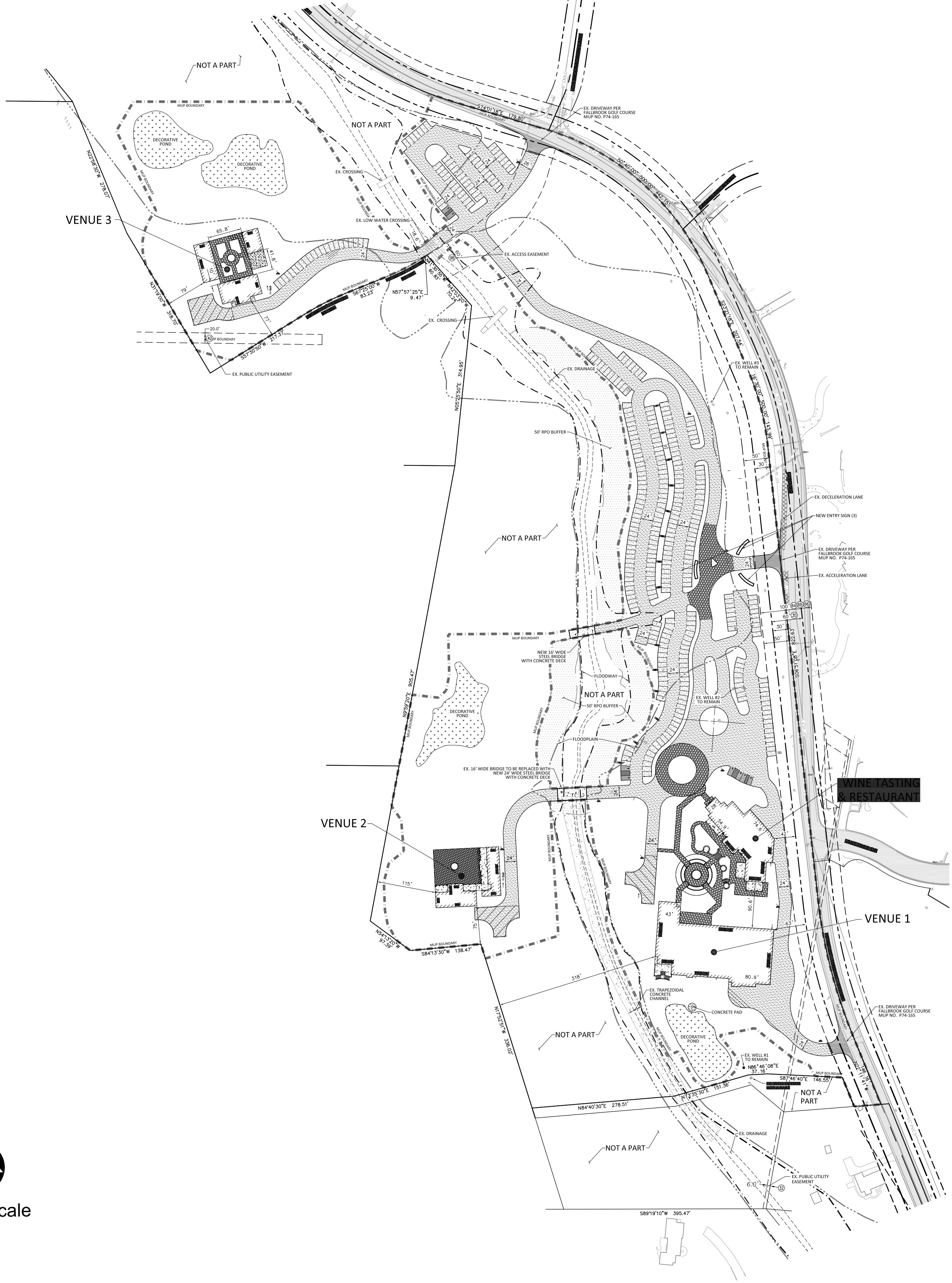
1. Reche Road and Gird Road,
2. Gird Road and Project Driveway, and
3. SR-76 and Gird Road.

This study also evaluates the following two roadway segments in the vicinity of the project site for average daily traffic volumes in a 24-hour period as well as the PM peak hour:

1. Gird Road between Reche Road and the Project Driveway, and
2. Gird Road between the Project Driveway and SR-76

These three intersections and two roadway segments have been identified in coordination with County staff as potential locations impacted by the proposed project as shown in **Exhibit 2**. These study locations are analyzed for the following conditions:

- Existing
- Opening Year 2020 Without Project
- Opening Year 2020 With Project



Not to Scale

Michael Baker INTERNATIONAL

Proposed Site Plan

Exhibit 1

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

Not to Scale

Michael Baker
INTERNATIONAL

Study Area

Exhibit 2

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

2.2 ANALYSIS METHODOLOGY

2.2.1 Intersection Methodology

Level of Service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. The intersection analysis conforms to the operational analysis methodology outlined in the *Highway Capacity Manual (HCM 6th Edition)* and performed utilizing the *Synchro 10* traffic analysis software.

The *HCM* analysis methodology describes the operation of an intersection using a range of level of service from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle for study intersections as shown in **Table 1**.

Synchro reports average delays for a signalized intersection, which correspond to a particular LOS, to describe the overall operation of an intersection. Unsignalized intersection LOS for all-way stops is based on the average delay for all approaches. Delay for one-way or two-way stop-controlled intersections is based on available gaps in traffic flow on the non-controlled approach and LOS is based on the approach with the worst delay.

TABLE 1 - LEVEL OF SERVICE & DELAY RANGE

Level of Service	Control Delay (seconds/vehicle)		Description
	Signalized Intersections	Unsignalized Intersections	
A	< 10.0	< 10.0	Operates with very low delay and most vehicles do not stop.
B	> 10.0 to 20.0	> 10.0 to 15.0	Operates with good progression with some restricted movements.
C	> 21.0 to 35.0	>15.1 to 25.0	Operates with significant number of vehicles stopping with some backup and light congestion.
D	> 35.1 to 55.0	> 25.0 to 35.0	Operates with noticeable congestion, longer delays occur, and many vehicles stop.
E	>55.0 to 80.0	> 35.1 to 50.0	Operates with significant delay, extensive queuing and unfavorable progression.
F	> 80.0	> 50.0	Operates at a level that is unacceptable to most drivers. Arrival rates exceed capacity of the intersection. Extensive queuing occurs.

Source: Highway Capacity Manual (HCM) 6th Edition.

2.2.1 Roadway Segment Methodology

The basis for analyzing roadway segments is the comparison of daily volumes to roadway capacity. The capacity of a roadway segment is affected by a number of factors including street width, roadway design, number of travel lanes, number of intersection driveways, presence of raised medians, etc. The analysis results provide a planning-level assessment of whether a segment is under, approaching, or over capacity.

Table 2A presents the roadway segment capacity and LOS standards contained in the San Diego County Public Road Standards.

TABLE 2A – ROADWAY SEGMENT DAILY LEVEL OF SERVICE CRITERIA

Mobility Element Roads		No. of Travel Lanes	Level of Service Capacity (ADT)				
			LOS A	LOS B	LOS C	LOS D	LOS E
Expressway (6.1)		6	36,000	54,000	70,000	86,000	108,000
Prime Arterial (6.2)		6	22,000	37,000	44,600	50,000	57,000
Major Road	With Raised Medians (4.1A)	4	14,800	24,700	29,600	33,400	37,000
	With Intermittent Turn Lanes (4.1B)		13,700	22,800	27,400	30,800	34,200
Boulevard	With Raised Medians (4.2A)	4	18,000	21,000	24,000	27,000	30,000
	With Intermittent Turn Lanes (4.2B)		16,800	19,600	22,500	25,000	28,000
Community Collector	With Raised Medians (2.1A)	2	10,000	11,700	13,400	15,000	19,000
	With Continuous Turn Lanes (2.1B)		3,000	6,000	9,500	13,500	19,000
	With Intermittent Turn Lanes (2.1C)		3,000	6,000	9,500	13,500	19,000
	With Improvement Options (2.1D)		3,000	6,000	9,500	13,500	19,000
	No Median (2.1E)		1,900	4,100	7,100	10,900	16,200
Light Collector	With Raised Medians (2.2A)	2	3,000	6,000	9,500	13,500	19,000
	With Continuous Turn Lanes (2.2B)		3,000	6,000	9,500	13,500	19,000
	With Intermittent Turn Lanes (2.2C)		3,000	6,000	9,500	13,500	19,000
	With Improvement Options (2.2D)		3,000	6,000	9,500	13,500	19,000
	No Median (2.2E)		1,900	4,100	7,100	10,900	16,200
	With Reduced Shoulders (2.2F)		5,800	6,800	7,800	8,700	9,700
Minor Collector	With Raised Medians (2.3A)	2	3,000	6,000	7,000	8,000	9,000
	With Intermittent Turn Lanes (2.3B)		3,000	6,000	7,000	8,000	9,000
	No Median (2.3C)		1,900	4,100	6,000	7,000	8,000
Non-Mobility Element Roads		**No. of Travel Lanes**	**Level of Service Capacity (ADT)**				
			LOS A	**LOS B**	**LOS C**	**LOS D**	**LOS E**
Residential Collector		2	-	-	4,500	-	-
Rural Residential Collector		2	-	-	4,500	-	-
Residential Road		2	-	-	1,500	-	-
Rural Residential Road		2	-	-	1,500	-	-
Residential Cul-de-Sac or Loop Road		2	-	-	200	-	-

Source: County of San Diego Public Road Standards (March 2012)

In addition to daily roadway capacities, this analysis also considers directional peak hour capacities on Gird Road. This information is provided for informational purposes only and is not considered a measure of significance. For the purposes of the analysis, the peak hour capacities are estimated to be 10% of the daily LOS capacity. Peak hour level of service for roadway segments are based on the volume-to-capacity (V/C) ratios shown in **Table 2B**.

TABLE 2B – ROADWAY SEGMENT PEAK HOUR LEVEL OF SERVICE CRITERIA

Level of Service	Volume-to-Capacity Ratio
A	0.00 - 0.60
B	> 0.60 - 0.70
C	> 0.70 - 0.80
D	> 0.80 - 0.90
E	> 0.90 - 1.00
F	> 1.00

2.3 THRESHOLDS OF SIGNIFICANCE

The County of San Diego has adopted level of service "D" or better as acceptable operating conditions for intersections and roadway segments. The Transportation Concept Report for SR-76 (Caltrans, February 2016) indicates LOS "E" is considered acceptable for segments of SR-76 between the Fallbrook/Bonsall Community Planning Area and Old Highway 395.

2.3.1 San Diego County Thresholds

In accordance with the County guidelines, a development project is considered to have a significant impact if the addition of project related trips results in one of the following conditions as shown in **Table 3**.

TABLE 3 - COUNTY OF SAN DIEGO THRESHOLDS OF SIGNIFICANCE

Allowable Increases on Congested Roads & Intersections		
Road Segments		
Level of Service	**LOS E**	**LOS F**
2-Lane Road	200 ADT	100 ADT
4-Lane Road	400 ADT	200 ADT
6-Lane Road	600 ADT	300 ADT
Intersections		
Level of Service	**LOS E**	**LOS F**
Signalized	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
Un-Signalized	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement

Source: County of San Diego *Guidelines for Determining Significance - Traffic and Transportation* Tables 1 & 2

2.3.2 Caltrans Thresholds

The intersection of SR-76 and Gird Road is a Caltrans facility. In accordance with the allowable thresholds established by Caltrans for SR-76, a traffic impact is considered significant if a development project would worsen intersection operations from level of service E or better to LOS F at this location.

3 EXISTING CONDITIONS

3.1 SURROUNDING ROADWAY NETWORK

The characteristics of the roadway system in the vicinity of the project site are described below:

State Route 76 (SR-76) is a Caltrans facility oriented in the east-west direction connecting the I-5 freeway in Oceanside to the I-15 freeway in Fallbrook. Within the Bonsall/Fallbrook community, SR-76 is a four-lane roadway between East Vista Way and Olive Hill/Camino Del Rey; six-lanes between Olive Hill/Camino Del Rey and Mission Road; and 4-lanes with intermittent turn lanes between Mission Road and the I-15 freeway. SR-76 is classified as a Major Roadway with Raised Medians (4.1A) according to the San Diego County General Plan-Fallbrook Mobility Element Network. The posted speed limit is 55 MPH. On-street parking is prohibited in both directions within the study area. SR-76 is a bike route with Class II bike lanes on both sides of the roadway. There are no sidewalks provided within the study area.

Gird Road is oriented in the north-south direction and is classified as a 2-lane Light Collector (2.2E) according to the San Diego County General Plan-Fallbrook Mobility Element Network. Gird Road is currently built out to its ultimate classification. The posted speed limit is 45 (MPH). On-street parking is prohibited and there are no existing bicycle facilities or sidewalks within the study area.

Reche Road is oriented in the east-west direction and is classified a 2-lane Light Collector with Intermittent Turn Lanes (2.2C) according to the San Diego County General Plan-Fallbrook Mobility Element Network Reche Road is currently built out to its ultimate classification. Within the study area, the posted speed limit is 40 MPH with advisory speeds between 25 MPH and 30 MPH around curves. On-street parking is prohibited and there are no existing bicycle facilities or sidewalks within the study area.

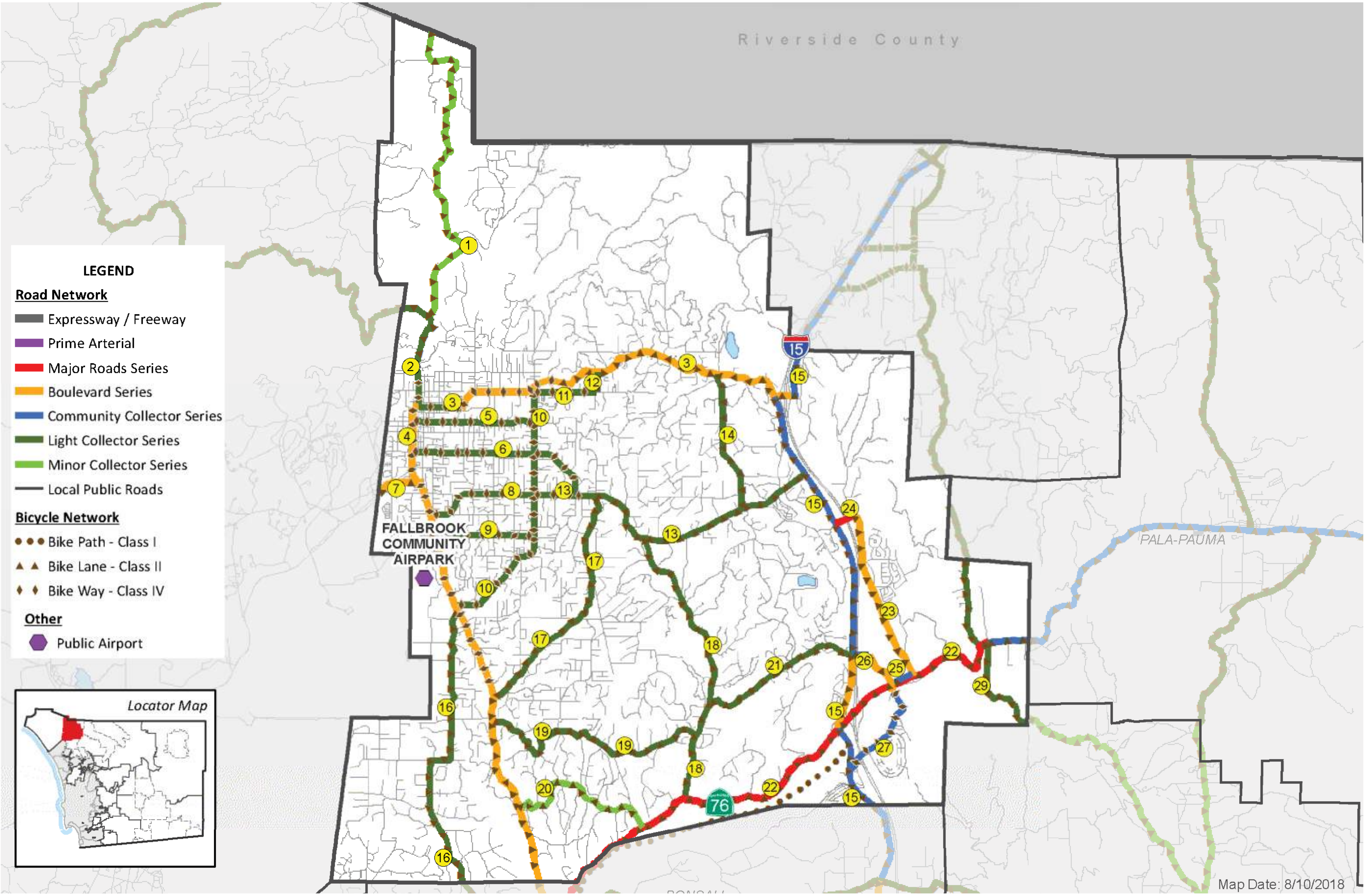
Exhibit 3 shows the Fallbrook Community Planning Area Mobility Element Network.

3.2 EXISTING TRAFFIC VOLUMES

To determine the existing operations of the study intersections and roadway segments, peak hour intersection movement counts and daily traffic counts were collected on Saturday, April 13, 2019. PM peak period counts were collected from 4:30 PM to 6:30 PM to coincide with the peak hour of the project. The counts used in this analysis were taken from the highest hour within the peak period counted for each intersection.

Detailed count data is contained in **Appendix B**.

Exhibit 4 shows the Existing study intersection lane geometry. **Exhibit 5** shows the daily segment volumes and PM peak hour volumes at the study intersections.

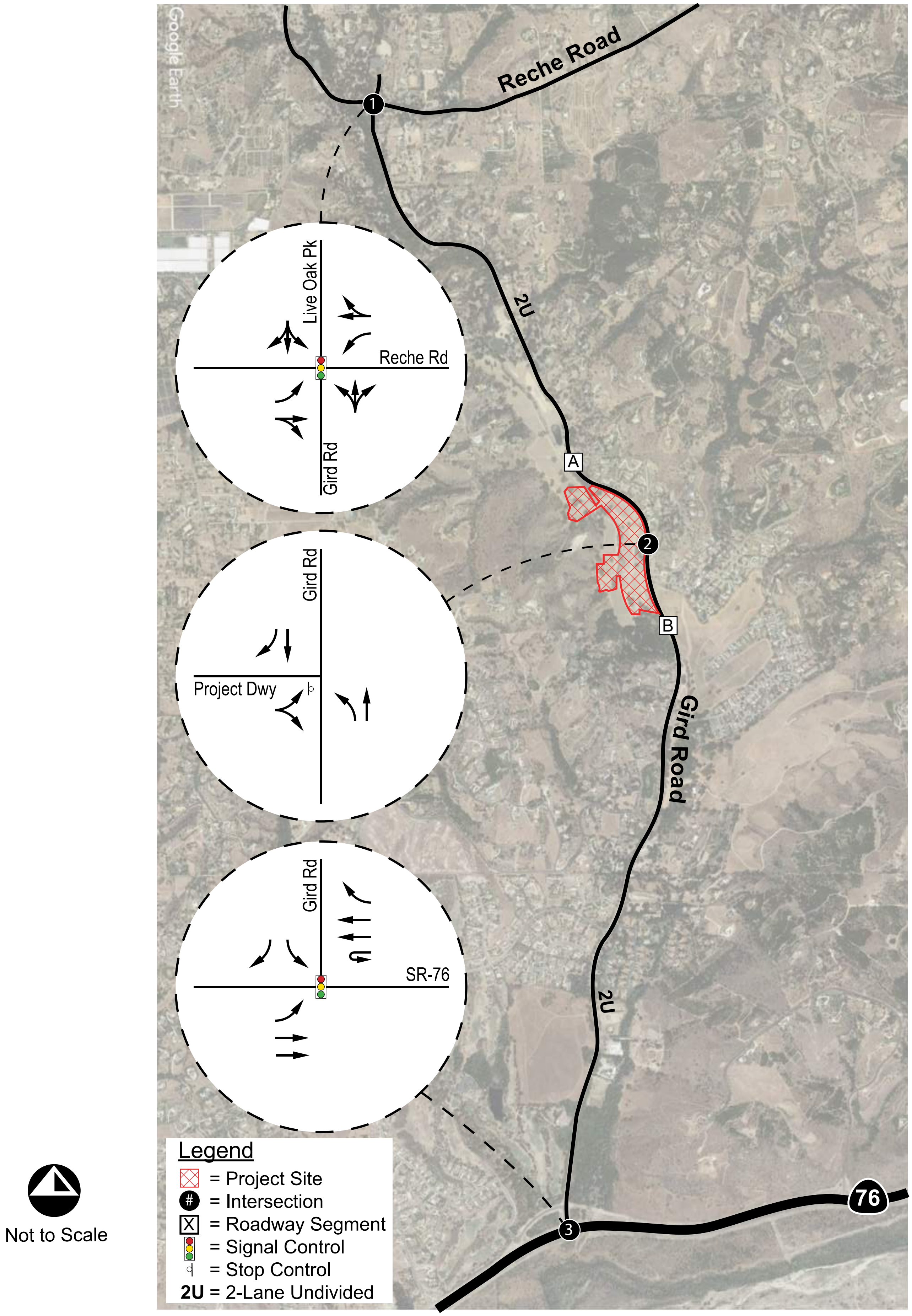


Michael Baker INTERNATIONAL

Fallbrook Mobility Element Roadway Network

Exhibit 3

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

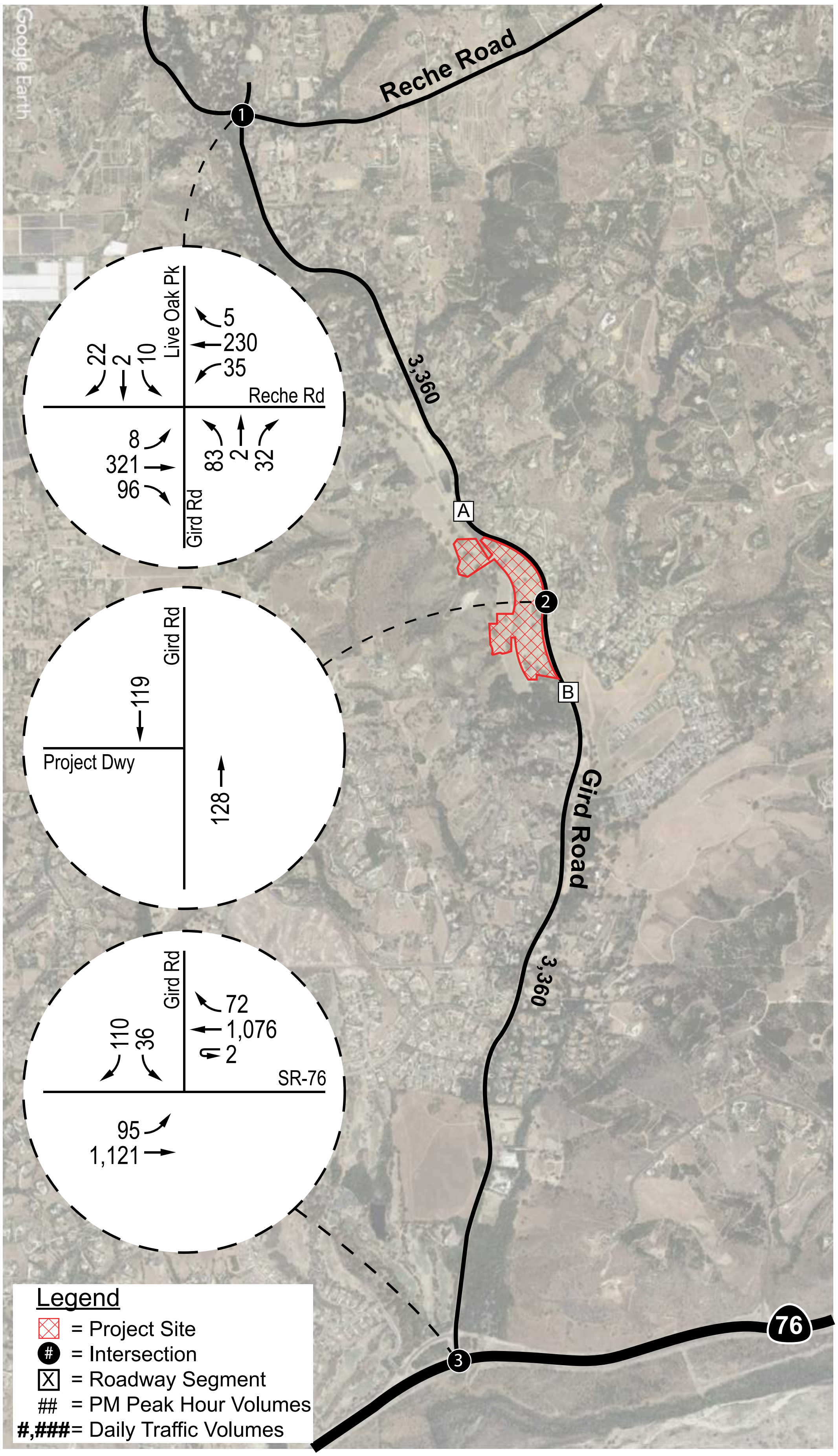


Michael Baker INTERNATIONAL

Existing Lane Configurations

Exhibit 4

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit



Not to Scale

Michael Baker INTERNATIONAL

Existing Daily & PM Peak Hour Traffic Volumes

Exhibit 5

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

3.3 EXISTING PEAK HOUR STUDY INTERSECTION LOS

Table 4 summarizes existing conditions PM peak hour level of service for all study intersections. Detailed analysis sheets are contained in **Appendix C**.

TABLE 4 – EXISTING PM PEAK HOUR INTERSECTION LOS

Study Intersection	Traffic Control	Existing Conditions PM Delay[1] - LOS
1 - Live Oak Park/Gird Road / Reche Road	Signal	17.0 - B
2 - Gird Road / Project Driveway	OWSC	**Not Studied Without Project**
3 - Gird Road / SR-76	Signal	14.3 - B

Note: Deficient intersection operation indicated in **bold**.
[1] Average seconds of delay per vehicle.
LOS = level of service.
OWSC = One-Way Stop Control

As shown in **Table 4**, all study intersections are currently operating at an acceptable level of service (LOS B or better) for Existing conditions during the PM peak hour on a Saturday.

3.4 EXISTING ROADWAY SEGMENT LOS

Table 5 summarizes existing conditions daily traffic levels of service for all study roadway segments.

TABLE 5 – EXISTING CONDITIONS ROADWAY SEGMENT LOS: DAILY ASSESSMENT

Roadway	Segment	Classification	No. Lanes	LOS E Capacity	Existing ADT	Existing V/C	Existing LOS
Gird Road	Reche Road to Project Driveway	Light Collector (2.2E)	2	16,200	3,360	0.21	B
	Project Driveway to SR-76	Light Collector (2.2E)	2	16,200	3,360	0.21	B

Note: Deficient roadway segment operations shown in **bold**
ADT= Average Daily Traffic
LOS= Level of Service
V/C= Volume to Capacity Ratio

As shown in **Table 5**, all study roadway segments are currently operating at an acceptable level of service (LOS B or better) for Existing conditions.

These roadway segments were further analyzed under peak hour conditions to determine if there is a capacity deficiency during the critical peak hour. As shown in **Table 6**, the studied roadway segments are forecast to operate at acceptable levels of service during the PM peak hour on a Saturday under Existing conditions.

TABLE 6 – EXISTING CONDITIONS ROADWAY SEGMENT LOS: PEAK HOUR ASSESSMENT

Roadway	Segment	Direction	No. Lanes	Capacity (VPH) (1)	Existing		
					PM Peak Hour Volume	V/C	LOS
Gird Road	Reche Road to Project Driveway	NB	1	1,620	128	0.08	A
		SB	1	1,620	119	0.07	A
	Project Driveway to SR-76	NB	1	1,620	128	0.08	A
		SB	1	1,620	119	0.07	A

Note: Deficient roadway segment operations shown in **bold**

LOS= Level of Service

VPH = Vehicles Per Hour

V/C= Volume to Capacity Ratio

(1) Assumes 10% of the daily LOS E capacity

4 OPENING YEAR 2020 WITHOUT PROJECT CONDITIONS

4.1 OPENING YEAR 2020 WITHOUT PROJECT TRAFFIC VOLUMES

Forecast Opening Year 2020 Without Project traffic volumes are derived by applying a 2% per year ambient growth rate to existing traffic volumes. There were no other cumulative projects identified that are planned, approved, or under construction that would contribute a significant amount of traffic to the study area on a Saturday.

Exhibit 6 shows the Opening Year 2020 Without Project daily and PM peak hour volumes within the study area.

4.2 OPENING YEAR 2020 WITHOUT PROJECT PEAK HOUR STUDY INTERSECTION LOS

Table 7 summarizes Cumulative Without Project PM peak hour level of service for all study intersections. Detailed analysis sheets are contained in **Appendix D**.

TABLE 7 – OPENING YEAR 2020 WITHOUT PROJECT PM PEAK HOUR INTERSECTION LOS

Study Intersection	Traffic Control	Opening Year 2020 Without Project Conditions
		PM
		Delay[1] - LOS
1 - Live Oak Park/Gird Road / Reche Road	Signal	17.4 - B
2 - Gird Road / Project Driveway	OWSC	**Not Studied Without Project**
3 - Gird Road / SR-76	Signal	14.5 - B

Note: Deficient intersection operation indicated in **bold**.
[1] Average seconds of delay per vehicle.
LOS = level of service.
OWSC = One-Way Stop Control

As shown in **Table 7**, all study intersections are forecast to operate at an acceptable level of service (LOS D or better) during the PM peak hour on a Saturday.

4.3 OPENING YEAR 2020 WITHOUT PROJECT ROADWAY SEGMENT LOS

Table 8 summarizes Opening Year 2020 Without Project conditions average daily traffic level of service for all study roadway segments.

TABLE 8 – OPENING YEAR 2020 WITHOUT PROJECT ROADWAY SEGMENT LOS: DAILY ASSESSMENT

Roadway	Segment	Classification	No. Lanes	LOS E Capacity	Opening Year 2020 Without Project Conditions		
					ADT	V/C	LOS
Gird Road	Reche Road to Project Driveway	Light Collector (2.2E)	2	16,200	3,430	0.21	B
	Project Driveway to SR-76	Light Collector (2.2E)	2	16,200	3,430	0.21	B

Note: Deficient roadway segment operations shown in **bold**
ADT= Average Daily Traffic
LOS= Level of Service
V/C= Volume to Capacity Ratio

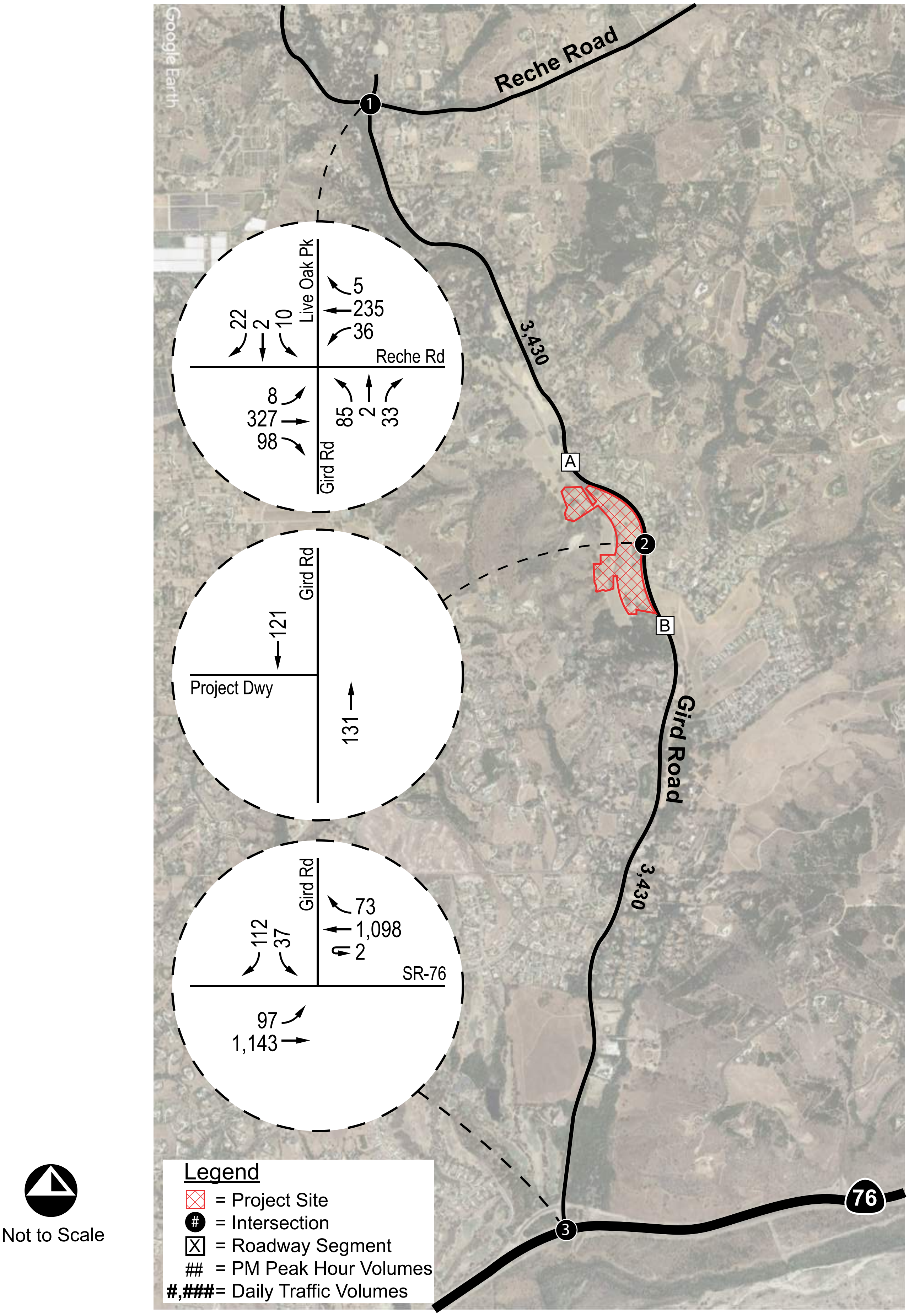
As shown in **Table 8**, all study roadway segments are currently operating at an acceptable level of service (LOS B or better) for Opening Year 2020 Without Project conditions.

These roadway segments were further analyzed under peak hour conditions to determine if there is a capacity deficiency during the critical peak hour. As shown in **Table 9**, the studied roadway segments are forecast to operate at acceptable levels of service during the PM peak hour on a Saturday under Opening Year 2020 Without Project conditions.

TABLE 9 – OPENING YEAR 2020 WITHOUT PROJECT ROADWAY SEGMENT LOS: PEAK HOUR ASSESSMENT

Roadway	Segment	Direction	No. Lanes	Capacity (VPH) (1)	Opening Year 2020 Without Project Conditions		
					PM Peak Hour Volume	V/C	LOS
Gird Road	Reche Road to Project Driveway	NB	1	1,620	131	0.08	A
		SB	1	1,620	121	0.07	A
	Project Driveway to SR-76	NB	1	1,620	131	0.08	A
		SB	1	1,620	121	0.07	A

Note: Deficient roadway segment operations shown in **bold**
VPH = Vehicles Per Hour
(1) Assumes 10% of the daily LOS E capacity
LOS= Level of Service
V/C= Volume to Capacity Ratio



Michael Baker INTERNATIONAL

Opening Year 2020 Without Project
Daily & PM Peak Hour Traffic Volumes

Exhibit 6

5 PROPOSED PROJECT

As part of the proposed winery, the project will include a tasting room, restaurant, and three separate event venues. The project is located on Gird Road north of SR-76 and south of Reche Road on the site of the old Fallbrook Golf Course. The proposed winery is projected to be built out and operational by Year 2020.

The tasting room and restaurant will operate from 10 AM to 6 PM and the event venues will be open from 12 PM to 10 PM. The restaurant will not serve dinner. This analysis focuses on the peak operating conditions of the winery on a typical Saturday evening.

The project site is accessed via three driveways on Gird Road. The northernmost and southernmost driveways will be improved with the project; however, they will provide emergency vehicle access only and will not be accessible for public use.

Exhibit 1 shows the proposed project draft site plan.

5.1 PROJECT FORECAST TRIP GENERATION

In order to calculate vehicle trips forecast to be generated by the proposed project, the operations of the various components of the winery (tasting room, restaurant, and event venues) were evaluated as a whole.

The trip generation for the proposed project is based on a blend of SANDAG *(Not So) Brief Guide to Vehicular Traffic Generation Rates* (2002), *Institute of Transportation Engineers (ITE) 10th Edition Trip Generation Manual* (2017) rates, and engineering judgement. If SANDAG or ITE trip generation rates were not applicable, trips were manually calculated based on an estimated number of guests and an assumed vehicle occupancy. **Table 10** summarizes the trip generation rates.

TABLE 10 - TRIP GENERATION RATES

Land Use	Daily Trip Rate	Evening Peak Hour Rate	
		Total Rate	In : Out
Quality Restaurant (1)	150.00 / KSF	3.08 / KSF	10% : 90%
Winery (2)	203.48 / KSF	9.36 / KSF	10% : 90%
Event Venue (3)	0.8 / Guest	0.40 / Guest	100% : 0%

(1) Source: SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates (2002). Adjusted base on increased activity on a weekend.

(2) Source: ITE Trip Generation Manual, 10th Edition. Land Use Code 970 for a Saturday

(3) Trip rates calculated assuming vehicle occupancy of 2.5. PM in/out splits assumes event starts during that period.

The following assumptions were used to develop the trip generation for the proposed project:

- Trip generation for the winery is based on the square footage of the tasting room and retail storage, wine storage, and restrooms.
- Reduction of 50% was applied to the restaurant use only to account for internal capture of the winery and tasting room guests.
- Each event venue has an assumed maximum capacity of 250 guests.
- Trip generation assumes all events would begin during the same hour.
- During a worst-case weekend peak hour scenario -
    - Two venues would be hosting events with typical size wedding party (125 guests each)
    - One venue would be hosting an event at 100% capacity (250 guests).

It should be noted that an internal reduction of 50% for the restaurant is considered conservatively low; the winery, tasting room, and restaurant could potentially have a higher number of shared guests.

Table 11 summarizes the project trip generation using the rates shown in **Table 10**. As shown, the proposed project is forecast to generate approximately 1,237 daily trips with 232 PM peak hour trips (203 in / 29 out).

TABLE 11 – MONSERATE WINERY TRIP GENERATION

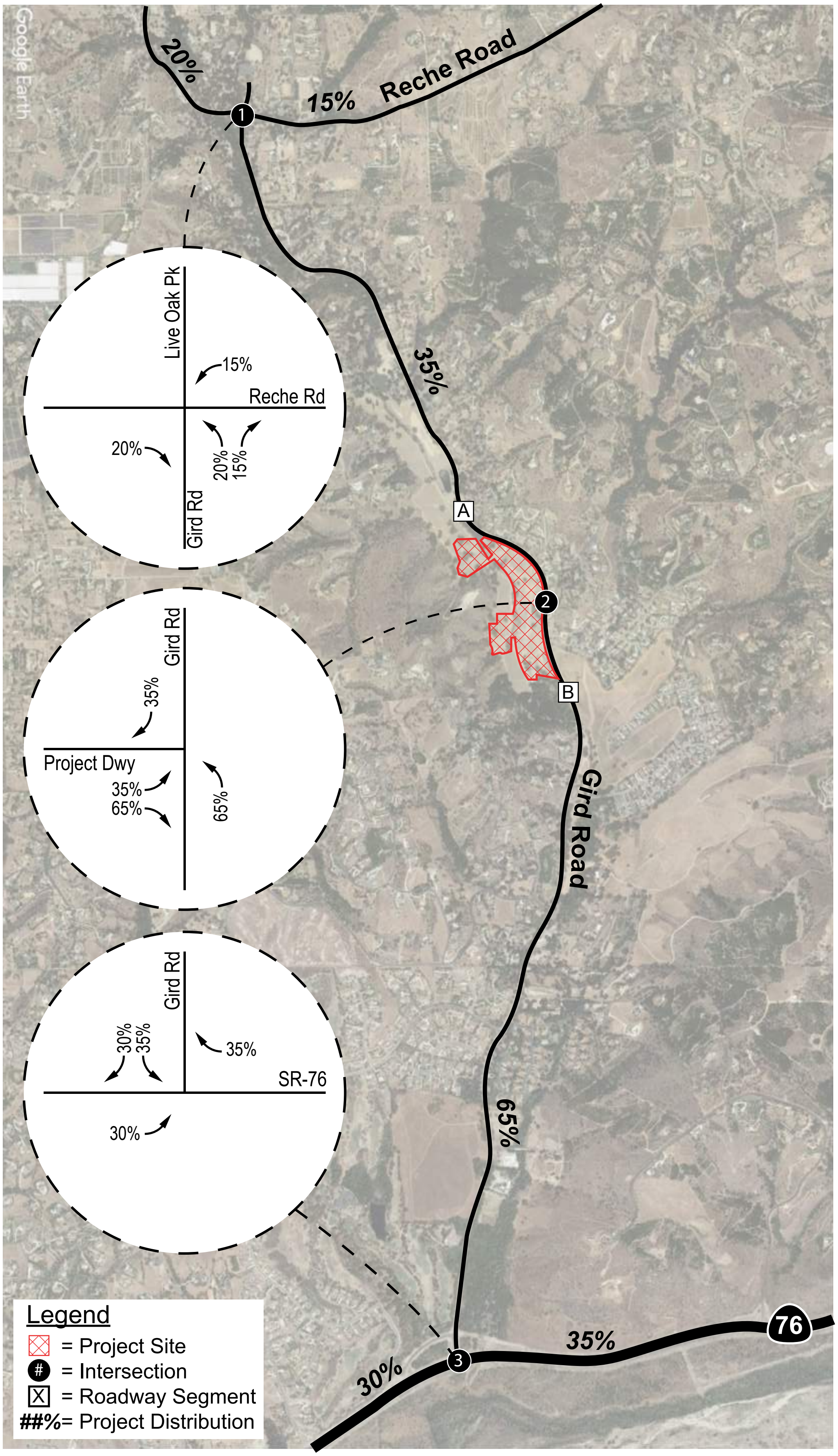
Land Use	Intensity	Daily Trips	Evening Peak Hour	
			Total Volume	In : Out
Restaurant	3.00 KSF	450	9	1 : 8
Winery	3.01 KSF	612	28	3 : 25
Event Venue	500 Guests	400	200	200 : 0
	Subtotal	1,462	237	204 : 33
	50% Internal Reduction (1)	-225	-5	-1 : -4
	Total Winery (Saturday)	1,237	232	203 : 29

(1) Internal reduction applied to restaurant trips only to account for interaction with the winery.

5.2 TRIP DISTRIBUTION AND TRIP ASSIGNMENT OF PROPOSED PROJECT

Exhibit 7 shows the forecast trip percent distribution of the proposed project within the study area. Project traffic was distributed on the roadway network based on existing travel patterns and discussions with County staff. As shown, 35% of traffic is estimated to travel north on Gird Road towards Reche Road and 65% south on Gird Road towards SR-76.

Exhibit 8 shows the corresponding forecast assignment of daily and PM peak hour project-generated trips assuming the trip percent distribution shown in **Exhibit 7**.



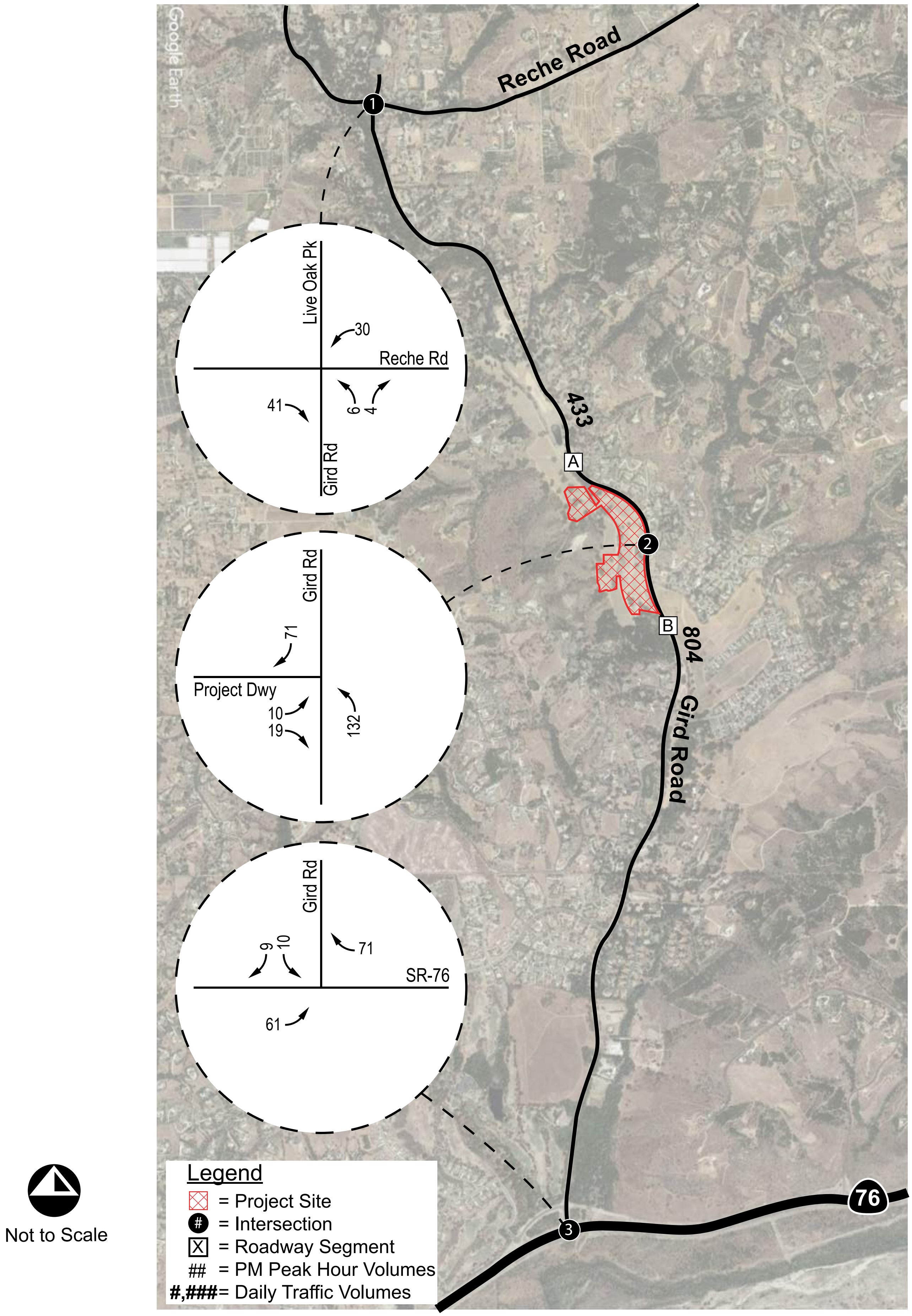
Not to Scale

Michael Baker INTERNATIONAL

Monserate Winery Proposed Trip Distribution

Exhibit 7

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit



Michael Baker INTERNATIONAL

Monserate Winery Proposed Trip Assignment

Exhibit 8

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

6 OPENING YEAR 2020 WITH PROJECT

6.1 OPENING YEAR 2020 WITH PROJECT TRAFFIC VOLUMES

Forecast Opening Year 2020 With Project traffic volumes are derived by adding trips forecast to be generated by the proposed project to Opening Year 2020 Without Project traffic volumes.

Exhibit 9 shows the Opening Year 2020 With Project daily and PM peak hour volumes within the study area.

6.2 OPENING YEAR 2020 WITH PROJECT PEAK HOUR STUDY INTERSECTION LOS

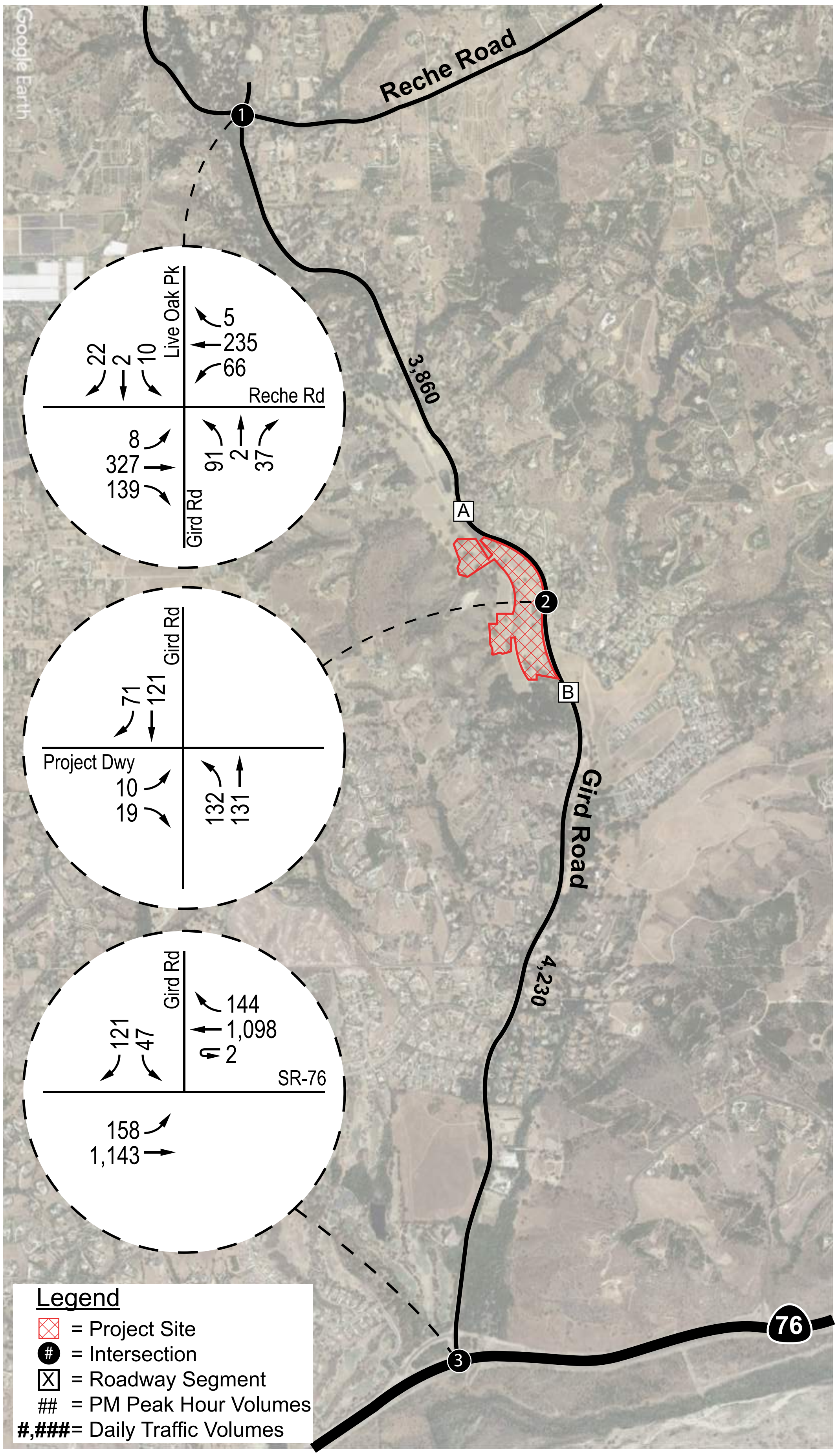
Table 12 summarizes Opening Year 2020 With Project PM peak hour level of service for all study intersections. Detailed analysis sheets are contained in **Appendix E**.

TABLE 12 – OPENING YEAR 2020 WITH PROJECT PM PEAK HOUR INTERSECTION LOS

Study Intersection	Traffic Control	Opening Year 2020 Without Project Conditions	Opening Year 2020 With Project Conditions	Change in Delay (sec.)	Significant Impact?
		PM	PM		
		Delay[1] - LOS	Delay[1] - LOS	PM	PM
1 - Live Oak Park/Gird Road / Reche Road	Signal	17.4 - B	20.0 - B	2.6	No
2 - Gird Road / Project Driveway	OWSC	**Not Studied Without Project**	10.7 - B	10.7	No
3 - Gird Road / SR-76	Signal	14.5 - B	17.9 - B	3.4	No

Note: Deficient intersection operation indicated in **bold**.
[1] Seconds of delay per vehicle.
LOS = level of service.
OWSC = One-Way Stop Control

As shown in **Table 12**, all study intersections are forecast to operate at an acceptable level of service (LOS D or better) during the PM peak hour on a Saturday.



Not to Scale

Opening Year 2020 With Project
Daily & PM Peak Hour Traffic Volumes

Exhibit 9

Michael Baker
INTERNATIONAL

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

6.3 OPENING YEAR 2020 WITH PROJECT ROADWAY SEGMENT LOS

Table 13 summarizes Opening Year 2020 With Project conditions average daily traffic level of service for all study roadway segments.

TABLE 13 – OPENING YEAR 2020 WITH PROJECT ROADWAY SEGMENT LOS: DAILY ASSESSMENT

Roadway	Segment	Classification (No. Lanes)	LOS E Capacity	Opening Year 2020 Without Project Conditions			Opening Year 2020 With Project Conditions			Significant Impact?
				ADT	V/C	LOS	ADT	V/C	LOS	
Gird Road	Reche Road to Project Driveway	Light Collector (2.2E)	16,200	3,430	0.21	B	3,860	0.24	B	No
	Project Driveway to SR-76	Light Collector (2.2E)	16,200	3,430	0.21	B	4,230	0.26	C	No

Note: Deficient roadway segment operations shown in **bold**
ADT= Average Daily Traffic
LOS= Level of Service
V/C= Volume to Capacity Ratio

As shown in **Table 13**, all study roadway segments are currently operating at an acceptable level of service (LOS C or better) for Opening Year 2020 With Project conditions.

These roadway segments were further analyzed under peak hour conditions to determine if there is a capacity deficiency during the critical peak hour. As shown in **Table 14**, the studied roadway segments are forecast to operate at acceptable levels of service during the PM peak hour on a Saturday.

TABLE 14 – OPENING YEAR WITH PROJECT CONDITIONS ROADWAY SEGMENT LOS: PEAK HOUR ASSESSMENT

Road way	Segment	Direction	No. Lanes	Capacity (VPH) [1]	Opening Year 2020 Without Project Conditions			Opening Year 2020 With Project Conditions		
					PM Peak Hour Volume	V/C	LOS	PM Peak Hour Volume	V/C	LOS
Gird Road	Reche Road to Project Driveway	NB	1	1,620	131	0.08	A	141	0.09	A
		SB	1	1,620	121	0.07	A	192	0.12	A
	Project Driveway to SR-76	NB	1	1,620	131	0.08	A	263	0.16	A
		SB	1	1,620	121	0.07	A	140	0.09	A

Note: Deficient roadway segment operations shown in **bold**
VPH = Vehicles Per Hour
[1] Assumes 10% of the daily LOS E capacity
LOS= Level of Service
V/C= Volume to Capacity Ratio

7 SITE ACCESS & SIGHT DISTANCE

7.1 SITE ACCESS

The project is located at the previous Fallbrook Golf course and takes access immediately off of Gird Road via three existing driveways. The northernmost and southernmost driveways will be improved with the project; however, they will provide emergency vehicle access only and will not be accessible for public use. All project traffic will access the site via the central driveway that also served as the main entrance to the golf course.

This main entrance is served by a southbound deceleration lane for vehicles turning right into the project as well as a southbound acceleration lane for vehicles exiting the site heading south. The existing northbound left-turn-lane will remain.

7.2 SIGHT DISTANCE

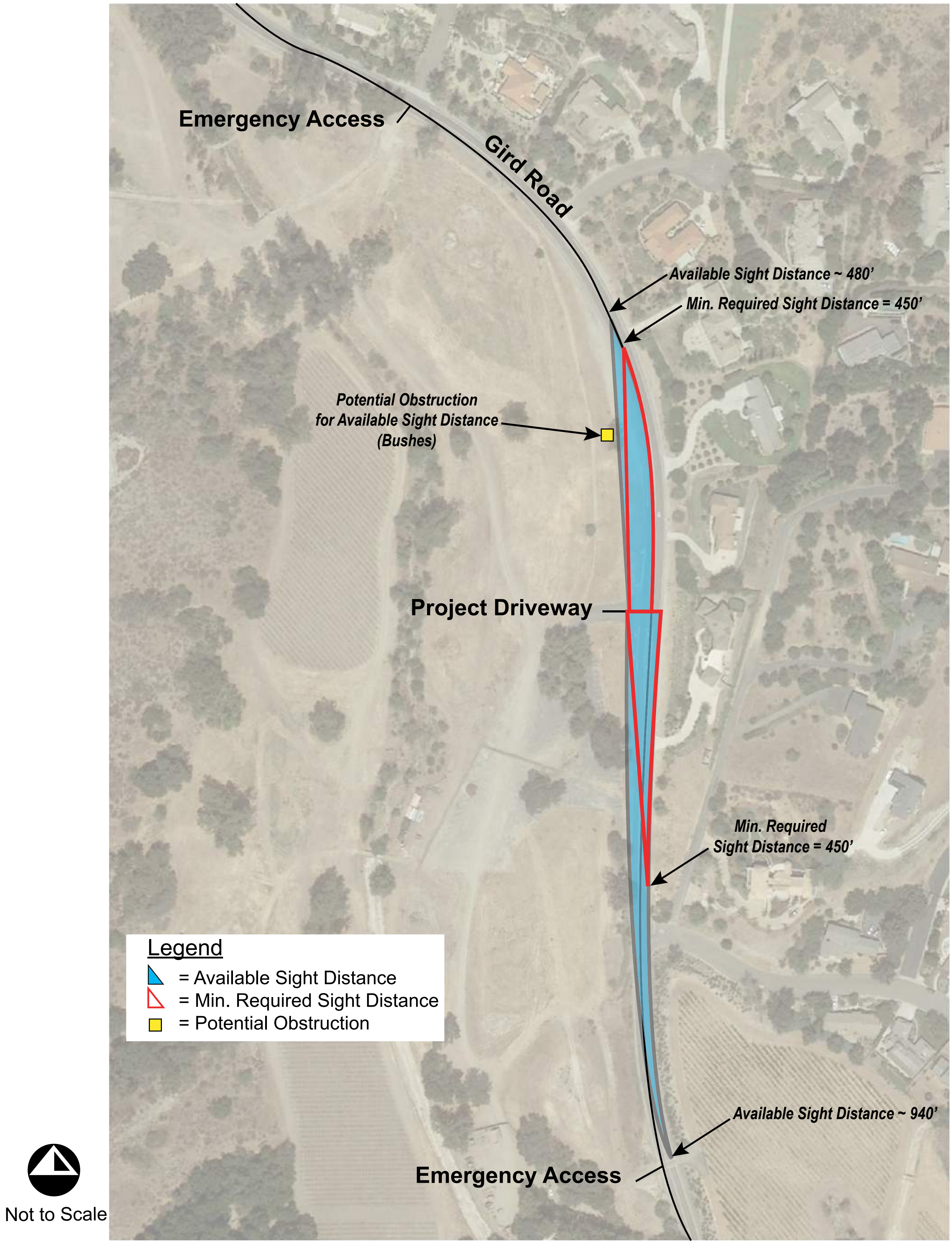
At the request of County of San Diego staff, this focused traffic study also evaluates the corner sight distance requirements at the project driveway. The sight distance analysis is based on *County of San Diego Public Road Standards* (March 2012) methodology which utilizes sight triangles to show areas that should be clear of obstructions that might block a driver's view of potentially conflicting vehicles. This methodology provides sufficient sight distance for a stopped driver on a minor road to depart the intersection and enter the major road as well as vehicles on the major road to turn left across opposing traffic. Likewise, this methodology also provides enough time for drivers of vehicles on the major road to slow or stop if vehicles on the minor road are approaching or departing.

The sight distance needed under various assumptions of physical conditions and driver behavior is directly related to vehicle speeds and to the resultant distances traversed during perception-reaction time and braking. Specific areas, known as clear sight triangles, between a driver's eye and the approaching vehicles path of travel should be cleared of obstructions that may block a driver's view.

Based on County guidelines, the distance from the edge of the major-road travel way to the vertex of the clear sight distance must be a minimum of 10 feet measured from a height of 3.5 feet on the approach to an object height of 4.25 feet on the major road. The posted speed limit on Gird Road is 45 MPH. For the purposes of this analysis, a design speed of 45 MPH was used in both directions.

Based on County guidelines, the required sight distance that needs to be kept free of visual obstructions (i.e. monuments, landscaping, berms, etc.) for vehicles turning left from the project driveway onto northbound Gird Road is 450 feet. In addition, any tree canopy within the sight triangle should also be maintained at a level no less than 10 feet above the roadway at all times. Due to the large horizontal curve on Gird Road north of the project driveway and a cluster of bushes on the west side of Gird Road, the available sight distance is approximately 480 feet (measured along the path of travel). South of the project driveway, there is approximately 940 feet of available sight distance. Therefore, the available sight distance at the project driveway is greater than the minimum required by County guidelines in both the north and south direction on Gird Road.

Exhibit 10 shows the required and available sight distance at the project driveway. See **Appendix F** for Sight Distance Certification.



Michael Baker INTERNATIONAL

Required & Available Sight Distance

Exhibit 10

April 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

8 FINDINGS AND RECOMMENDATIONS

This study analyzes the forecast traffic conditions associated with the proposed Monserate Winery in the Fallbrook Community Planning Area of unincorporated San Diego County. As part of the proposed winery, the project will include a tasting room, restaurant, and three separate event venues. The project is located on Gird Road north of SR-76 and south of Reche Road on the site of the old Fallbrook Golf Course. The proposed winery is projected to be built out and operational by Year 2020.

The proposed project is forecast to generate approximately 1,237 net new daily trips on a typical Saturday which includes approximately 232 PM peak hour trips. This analysis focuses on the peak operating conditions of the winery on a typical Saturday evening.

This study considers the level of service operations for intersections and roadways as well as the corner sight distance requirements at the project driveway.

Level of Service Analysis Results

Intersection Analysis

The results of the Existing conditions analysis show that all study intersections currently operate at acceptable levels of service (LOS B or better).

The results of the Opening Year 2020 conditions show that all study intersections are forecast to operate at acceptable levels of service (LOS B or better).

With the addition of project related traffic, all study intersections continue to operate at acceptable levels of service for the Opening Year 2020 With Project conditions.

Roadway Segment Analysis

The results of the Existing conditions analysis show that all study roadway segments currently operate at an acceptable level of service (LOS B or better) on a daily and peak hour basis.

The results of the Opening Year 2020 conditions show that all study roadway segments are forecast to operate at an acceptable level of service (LOS B or better) on a daily and peak hour basis.

With the addition of project related traffic, all study roadway segments continue to operate at acceptable levels of service on a daily and peak hour basis for the Opening Year 2020 With Project conditions.

Sight Distance Requirements

Based on County guidelines, the required sight distance that needs to be kept free of visual obstructions (i.e. monuments, landscaping, berms, etc.) for vehicles turning left from the project driveway onto northbound Gird Road is 450 feet. In addition, any tree canopy within the sight triangle should also be maintained at a level no less than 10 feet above the roadway at all times. The available sight distance is approximately 480 feet (measured along the path of travel). South of the project driveway, there is approximately 940 feet of available sight distance. Therefore, the available sight distance at the project driveway is greater than the minimum required by County guidelines in both the north and south direction on Gird Road.

Michael Baker
INTERNATIONAL

Appendix A:
FTIA Scoping Agreement

This page intentionally left blank

SCOPING AGREEMENT FOR FOCUSED TRAFFIC IMPACT ANALYSIS

This letter acknowledges the County of San Diego Planning and Development Services Department has requested that a focused traffic impact analysis be performed for the following project. The analysis must follow the latest *County Guidelines for Determining Significance – Transportation and Traffic* (August 24, 2011) and *Guidelines for Transportation Impact Studies in the San Diego Region* (draft-January 22, 2019).

Case No. PDS2018-MUP74-165W1
Project Name: Monserate Winery
Project Location: Fallbrook, CA
Project Description: Winery, Restaurant, Event Venue

	Consultant	Developer
Name:	Bob Davis & Dawn Wilson – Michael Baker International	GIRD VALLEY, INC.
Address:	5050 Avenida Encinas Ste 260	1492 Rainbow Valley Blvd.
	Carlsbad, CA 92008	Fallbrook,CA 92028
Telephone:	(760) 603-6244	
Fax:		

A. Trip Generation Source: (SANDAG Guide & ITE 10th Edition), See **Attachment A**

Current GP Land Use	Open Space Recreation	Proposed Land Use	Winery, Restaurant, and Event Venues
Current Zoning	A70 Limited Agricultural Use	Proposed Zoning	No Change

	In	Out	Total
Midday Trips	114	63	178
PM Trips	200	0	200
Daily Trips	619	618	1,237

Internal Trip Allowance ☒Yes ☐No (50% Trip Discount- Midday Only. See Attachment A)
Pass-By Trip Allowance ☐Yes ☒No (0 % Trip Discount)

B. Trip Geographic Distribution: N 35 % S 65 % E 0 % W 0 %
(Assume all traffic uses Gird Road to access project)

C. Background Traffic
Project Completion Year: 2020 Annual Ambient Growth Rate: 2 %
NOTE: New traffic counts will be conducted for segments & intersections

Other Area Projects to be included: None were identified that generate a significant amount of traffic on Saturday in the afternoon/evening peak trip generation period for the Winery & Event Venue project

D. Study Scenarios:

Traffic Impact Analysis will include the following study scenarios:

- Existing Conditions
- Project Opening Year Plus Ambient Growth Rate Without Project (PM Peak Hour)
- Project Opening Year Plus Ambient Growth Rate With Project (PM Peak Hour)

E. Long-Range/Build-out Study: Does this project require a Build-Out Study: ☐Yes ☒No
Model/Forecast methodology: N.A.

F. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.) (**Attachment B** shows study intersections.)

1. Gird Road/SR-76 (Existing Signal Control)
2. Gird Road/ Project Driveway (Side Street Stop Control)
3. Gird Road/Reche Road (Existing Signal Control)
   (All project driveways are driveways that existed with the previous golf course use)

G. Study Roadway Segments: (**Attachment B** shows study intersections.)

A. Gird Road between Reche Road and Project Driveway
B. Gird Road between Project Driveway and SR-76
   Projected roadway segment volumes will be compared to both daily capacities and directional peak hour capacities.

H. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or one-mile radius of boundaries? ☐Yes ☒No
If so, name of City Jurisdiction: N.A.

I. Site Plan [see **Attachment C**]

J. Site Specific issues to be addressed in the Study in addition to the standard analysis.

1. Check corner sight distance at the project driveway

Recommended by:		**Approved Scoping Agreement:**	
Bob Davis	4/10/19		
Consultants Representative	Date	County of San Diego Planning and Development Services Department	Date

Scoping Agreement Submitted on: 3/28/19
Resubmitted on: 4/10/19

Attachment A
Monserate Winery Trip Generation Assumptions

Daily trips expected to be generated by the proposed Monserate Winery are based on the assumptions outlined below. The winery also includes a tasting room, restaurant and 3 separate event venues. The tasting room and restaurant are open until 5 o'clock PM and does not serve dinner.

Monserate Winery Assumptions:

- Trip generation for the winery is based on the square footage of the tasting room and retail storage, wine storage, and restrooms.
- Reduction of 50% applied to the restaurant use to account for internal capture of the winery and tasting room guests during the midday only.
- Each event venue has a maximum capacity of 250 guests.
- Trip generation assumes all events would begin during the same hour.
- During a worst-case midday scenario, the restaurant and tasting room would be open and one venue would be hosting an event with a typica size wedding party (125 guests).
- During a worst-case evening scenario -
  - Two venues would be hosting events with typical size wedding party (125 guests each)
  - One venue would be hosting an event at 100% capacity (250 guests).

The assumption of an internal reduction of 50% for restaurant trips is considered conservatively low. The winery, tasting room, and restaurant could potentially have a higher number of shared guests.

As shown in the following tables, the winery would generate 1,237 daily trips on an average Saturday. For a worst case-scenario during the midday peak hour, the winery is expected to generate 178 peak hour trips (114 in / 63 out). During the evening peak hour for a worst-case scenario, the winery is expected to generate 200 peak hour trips (200 in / 0 out). Therefore, this focused traffic study will concentrate on the PM peak hour traffic conditions.

Trip Generation Rates (Saturday)

Land Use	Daily Trip Rate	Midday Peak Hour Rate		Evening Peak Hour Rate	
		Total Rate	In : Out	Total Rate	In : Out
Quality Restaurant [1]	150.00 / KSF	12.00 / KSF	70% : 30%	0.00 / KSF	0% : 0%
Winery [2]	203.48 / KSF	36.50 / KSF	47% : 53%	0 / KSF	0% : 0%
Event Venue [3]	0.8 / Guest	0.40 / Guest	100% : 0%	0.40 / Guest	100% : 0%

(1) Source: SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates (2002). Adjusted base on increased activity on a weekend.
(2) Source: ITE Trip Generation Manual, 10th Edition. Land Use Code 970 for a Saturday
(3) Trip rates calculated assuming vehicle occupancy of 2.5. Midday & PM in/out splits assumes event starts during that period.

Trip Generation (Saturday)

Land Use	Intensity		Daily Trips
Restaurant	3.00	KSF	450
Winery	3.01	KSF	612
Event Venue	500	Guests	400
		Subtotal	1,462
		50% Internal Reduction [1]	-225
		Total Winery (Saturday)	1,237

[1] Internal reduction applied to restaurant trips only to account for interaction with the winery.

Trip Generation (Saturday - Midday Peak Hour)

Land Use	Intensity		Midday Peak Hour			
			Total Volume	In	:	Out
Restaurant	3.00	KSF	36	25	:	11
Winery	3.01	KSF	110	52	:	58
Event Venue	125	Guests	50	50	:	0
		Subtotal	196	127	:	69
		50% Internal Reduction [1]	-18	-13	:	-6
		Total Winery (Saturday)	178	114	:	63

[1] Internal reduction applied to restaurant trips only to account for interaction with the winery.

Trip Generation (Saturday - Evening Peak Hour)

Land Use	Intensity		Evening Peak Hour			
			Total Volume	In	:	Out
Restaurant	3.00	KSF	0	0	:	0
Winery	3.01	KSF	0	0	:	0
Event Venue	500	Guests	200	200	:	0
		Subtotal	200	200	:	0
		50% Internal Reduction [1]	0	0	:	0
		Total Winery (Saturday)	200	200	:	0

[1] Internal reduction applied to restaurant trips only to account for interaction with the winery.

Not to Scale

Michael Baker INTERNATIONAL

Study Area

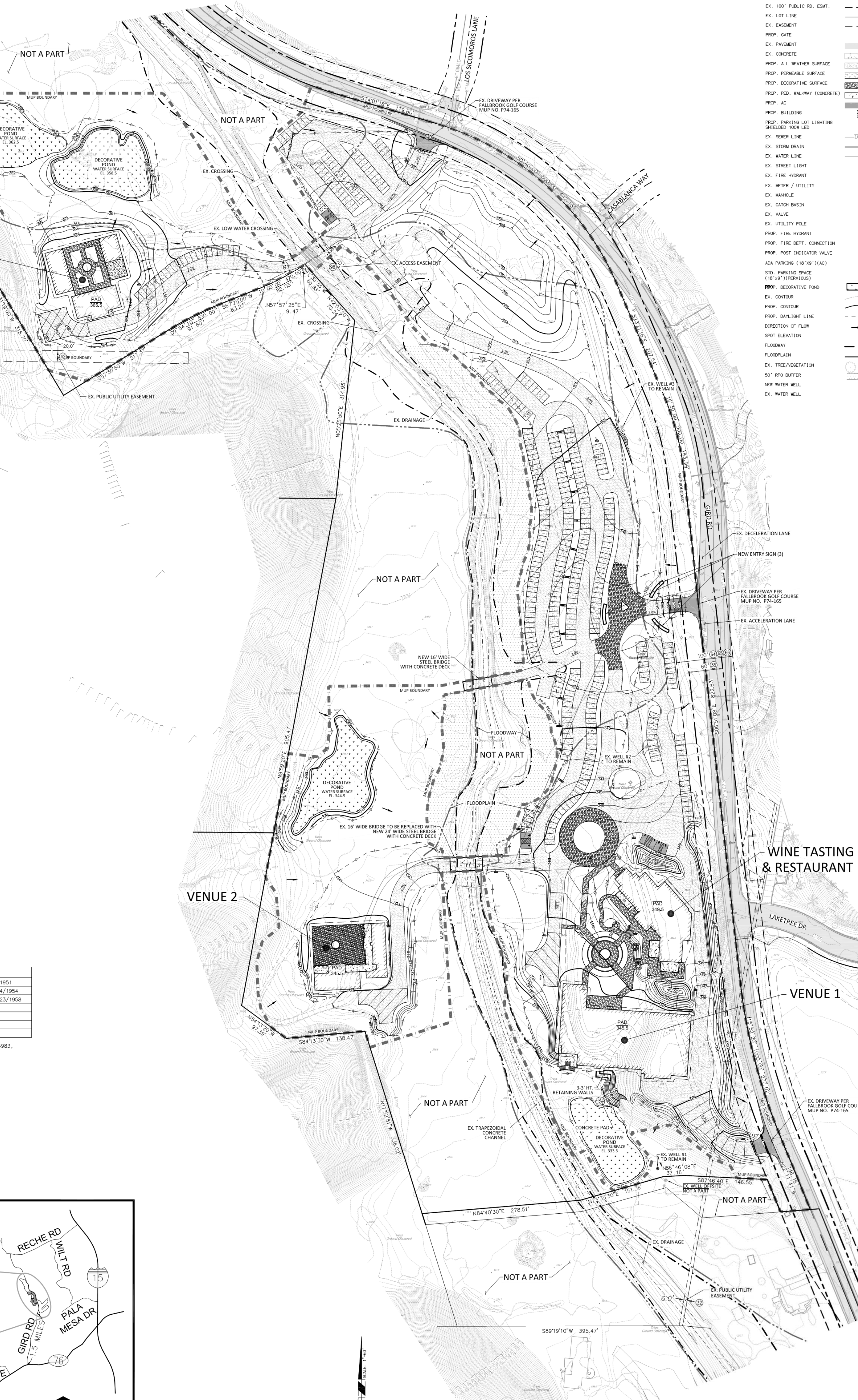
Attachment B

March 2019
H:\PDATA\160734_Monserate Winery TG\Traffic\Exhibit

MONSERATE WINERY

COUNTY OF SAN DIEGO, CA

PRELIMINARY GRADING PLAN



LEGEND:

PROP. MUP BOUNDARY	MUP BOUNDARY
EX. 60' PUBLIC RD. ESMT.	
EX. 100' PUBLIC RD. ESMT.	
EX. LOT LINE	
EX. EASEMENT	
PROP. GATE	
EX. PAVEMENT	
EX. CONCRETE	
PROP. ALL WEATHER SURFACE	
PROP. PERMEABLE SURFACE	
PROP. DECORATIVE SURFACE	
PROP. PED. WALKWAY (CONCRETE)	
PROP. AC	
PROP. BUILDING	
PROP. PARKING LOT LIGHTING SHIELDED 100W LED	
EX. SEWER LINE	10" VCP S
EX. STORM DRAIN	24" SD
EX. WATER LINE	10" W
EX. STREET LIGHT	
EX. FIRE HYDRANT	FH
EX. METER / UTILITY	
EX. MANHOLE	MH
EX, CATCH BASIN	
EX, VALVE	V
EX. UTILITY POLE	
PROP. FIRE HYDRANT	FH
PROP. FIRE DEPT. CONNECTION	FDC
PROP. POST INDICATOR VALVE	PIV
ADA PARKING (18'X9')(AC)	
STD. PARKING SPACE (18'x9')(PERVIOUS)	
PROP. DECORATIVE POND	
EX. CONTOUR	340
PROP. CONTOUR	340
PROP. DAYLIGHT LINE	
DIRECTION OF FLOW	1.5%
SPOT ELEVATION	3514
FLOODWAY	
FLOODPLAIN	
EX. TREE/VEGETATION	
50' RPO BUFFER	
NEW WATER WELL	
EX. WATER WELL	

ASSESSOR PARCEL NUMBER

107-420-16 POR., 107-420-17 POR.
124-330-04 POR., 124-330-14 POR.,
124-330-15 POR., 124-330-20 POR.

LEGAL DESCRIPTION

A PORTION OF TRACT B, RANCHO MONSERATE, SAN DIEGO COUNTY, CALIFORNIA, BOOK 23, PAGE 356 OF DEEDS.

BASIS OF BEARINGS

THE COORDINATES AND BEARINGS SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM OF 1983, CCS83, ZONE 6, (CSRS EPOCH 2011). SAID COORDINATES AND BEARINGS ARE BASED LOCALLY UPON FIELD-OBSERVED TIES TO THE FOLLOWING CONTINUOUS OPERATING REFERENCE STATIONS (CORS) AS PUBLISHED BY THE NATIONAL GEODETIC SURVEY (NGS).

BENCHMARK

THE BASIS OF ELEVATIONS FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) PER NATIONAL GEODETIC SURVEY BENCHMARK DESIGNATION; SDGPS 03. 2" BRASS DISK IN SIDEWALK STAMPED "NE 15/76 1980 SDGPS-03 1991". LOCATED AT THE NORTHEAST CORNER OF OVERPASS OF HWY 76 & HWY 15.
ELEVATION: 308.26 (NAVD88)

SITE ADDRESS:

2757 GIRD ROAD
FALLBROOK, CA 92028

OWNER/APPLICANT:

GIRD VALLEY , INC
1492 RAINBOW VALLEY BLVD.
FALLBROOK, CA 92028

PLANNER/ENGINEER

MICHAEL BAKER INTERNATIONAL
STEVE WRAGG
9755 CLAIREMONT MESA BLVD.
SAN DIEGO, CA. 92124
(858) 614-5000

NOTES

1. MUP BOUNDARY AREA: 23.7 ACRES
2. THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.
3. SOURCE OF TOPOGRAPHY AEROTECH MAPPING, INC., FLOWN JULY 28, 2017.

EARTHWORK

VOLUME OF CUT: 50,000 CY
VOLUME OF FILL: 50,000 CY
EXPORT/IMPORT: 0 CY
NOTE: THIS IS A RAW EARTHWORK VALUE AND IS SUBJECT TO ADJUSTMENTS DUE TO SHRINKAGE AND/OR BULKING, BUILDING FOUNDATION DESIGN AND ROADWAY UNDERCUTS TO BE DETERMINED BY THE PROJECT'S GEOTECHNICAL CONSULTANT.

MAXIMUM SITE RETAINING WALL HEIGHT: N/A

TOTAL DISTURBED AREA BEFORE PROJECT: 23.7 AC
TOTAL DISTURBED AREA AFTER PROJECT : 23.7 AC

TOTAL IMPERVIOUS AREA BEFORE PROJECT: 2.2 AC
TOTAL IMPERVIOUS AREA AFTER PROJECT : 2.1 AC

MAX DEPTH OF CUT: 20'
MAX DEPTH OF FILL: 10'

MAX CUT SLOPE RATIO: 2 TO 1
MAX FILL SLOPE RATIO: 2 TO 1

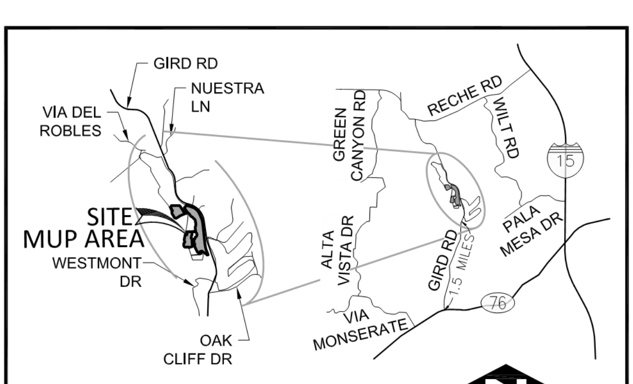
EXISTING EASEMENTS

	DESCRIPTION	DOC. #
32	SDG&E PUBLIC UTILITIES	DOC. 120804, BK 4253 PG 35, 10/3/1951
35	PUBLIC ROAD EASEMENT	DOC. 132414 BK. 5384 PG. 583, 10/4/1954
42	FALLBROOK PUBLIC UTILITIES	DOC. 65204, BK. 7050, PG. 249, 4/23/1958
64	PUBLIC ROAD EASEMENT	FILE NO. 122061, 7/7/1964
65	PUBLIC ROAD EASEMENT	FILE NO. 122064, 7/7/1964
66	PUBLIC ROAD EASEMENT	FILE NO. 122065, 7/7/1964
98	GRANT & AGREEMENT	FILE NO. 2004-0505579, 6/26/2004

CHICAGO TITLE INSURANCE COMPANY PRELIMINARY REPORT ORDER NUMBER 7101614983, DATED 9/1/2016

SHEET INDEX

SHEET 1 - TITLE SHEET/PRELIMINARY GRADING PLAN



VICINITY MAP
NOT TO SCALE

T.B. PG. 1028 C6,D7
& 1048, D1, E1

MONSERATE WINERY
COUNTY OF SAN DIEGO, CA
PRELIMINARY GRADING PLAN

SHEET 1 OF 1
OCTOBER 19, 2018

Michael Baker INTERNATIONAL
9755 Clairemont Mesa Blvd.
San Diego, CA 92124
Phone: (858) 614-5000
MBAKERINTL.COM

H:\PDATA\160734\CADD\PLANNING\DLV\160734-GP-01.DWG

Attachment C

Appendix B:
Existing Count Data

This page intentionally left blank

Prepared by NDS/ATD

VOLUME

Gird Rd Bet. Laketree Dr & Casablanca Way

Day: Saturday
Date: 4/13/2019

City: Fallbrook
Project #: CA19_4181_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,697	1,661	0	0	3,358

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	4		0				4		12:00	31		34				65	
00:15	3		3				6		12:15	42		23				65	
00:30	4		0				4		12:30	33		35				68	
00:45	1	12	1	4			2	16	12:45	34	140	32	124			66	264
01:00	2		4				6		13:00	39		28				67	
01:15	4		1				5		13:15	32		36				68	
01:30	1		0				1		13:30	26		29				55	
01:45	4	11	2	7			6	18	13:45	28	125	31	124			59	249
02:00	1		1				2		14:00	34		27				61	
02:15	0		0				0		14:15	32		37				69	
02:30	1		0				1		14:30	39		34				73	
02:45	1	3	1	2			2	5	14:45	30	135	25	123			55	258
03:00	4		2				6		15:00	44		29				73	
03:15	0		1				1		15:15	35		31				66	
03:30	0		1				1		15:30	26		36				62	
03:45	1	5	1	5			2	10	15:45	39	144	34	130			73	274
04:00	1		0				1		16:00	35		26				61	
04:15	1		3				4		16:15	38		36				74	
04:30	0		1				1		16:30	27		27				54	
04:45	1	3	1	5			2	8	16:45	28	128	27	116			55	244
05:00	2		9				11		17:00	30		29				59	
05:15	0		3				3		17:15	29		26				55	
05:30	1		8				9		17:30	25		35				60	
05:45	5	8	4	24			9	32	17:45	25	109	19	109			44	218
06:00	5		7				12		18:00	30		15				45	
06:15	3		12				15		18:15	23		28				51	
06:30	10		19				29		18:30	18		23				41	
06:45	9	27	20	58			29	85	18:45	14	85	15	81			29	166
07:00	11		16				27		19:00	16		16				32	
07:15	20		23				43		19:15	17		11				28	
07:30	16		27				43		19:30	17		19				36	
07:45	18	65	26	92			44	157	19:45	26	76	16	62			42	138
08:00	13		20				33		20:00	16		19				35	
08:15	17		21				38		20:15	15		7				22	
08:30	18		24				42		20:30	16		16				32	
08:45	33	81	25	90			58	171	20:45	15	62	9	51			24	113
09:00	26		25				51		21:00	22		9				31	
09:15	30		29				59		21:15	13		8				21	
09:30	21		23				44		21:30	12		12				24	
09:45	31	108	40	117			71	225	21:45	9	56	9	38			18	94
10:00	27		26				53		22:00	8		11				19	
10:15	24		36				60		22:15	14		11				25	
10:30	26		22				48		22:30	6		7				13	
10:45	42	119	33	117			75	236	22:45	11	39	5	34			16	73
11:00	34		29				63		23:00	7		3				10	
11:15	29		38				67		23:15	9		2				11	
11:30	35		36				71		23:30	3		7				10	
11:45	35	133	29	132			64	265	23:45	4	23	4	16			8	39
TOTALS		575		653				**1228**	**TOTALS**		1122		1008				**2130**
SPLIT %		46.8%		53.2%				**36.6%**	**SPLIT %**		52.7%		47.3%				**63.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,697	1,661	0	0	3,358

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	11:30	11:15			**10:45**	**PM Peak Hour**	12:15	15:30			**15:00**
AM Pk Volume	143	137			**276**	**PM Pk Volume**	148	132			**274**
Pk Hr Factor	0.851	0.901			**0.920**	**Pk Hr Factor**	0.881	0.917			**0.938**
7 - 9 Volume	146	182	0	0	**328**	**4 - 6 Volume**	237	225	0	0	**462**
7 - 9 Peak Hour	08:00	07:15			**08:00**	**4 - 6 Peak Hour**	16:00	16:15			**16:00**
7 - 9 Pk Volume	81	96	0	0	**171**	**4 - 6 Pk Volume**	128	119	0	0	**244**
Pk Hr Factor	0.614	0.889	0.000	0.000	**0.737**	**Pk Hr Factor**	0.842	0.826	0.000	0.000	**0.824**

National Data & Surveying Services Intersection Turning Movement Count

Location: Gird Rd & Reche Rd
City: Fallbrook
Control: Signalized

Project ID: 19-04180-002
Date: 2019-04-13

Total

NS/EW Streets:	Gird Rd				Gird Rd				Reche Rd				Reche Rd				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	1	0	0	0	1	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	24	2	8	0	1	0	4	0	4	46	16	0	6	75	1	0	187
4:45 PM	17	1	10	0	3	1	5	0	1	50	25	0	7	67	0	0	187
5:00 PM	24	0	5	0	4	1	6	0	4	104	23	0	12	48	1	0	232
5:15 PM	20	0	8	0	1	0	4	0	0	104	16	0	8	56	2	0	219
5:30 PM	22	1	9	0	2	0	7	0	3	63	32	0	8	59	2	0	208
5:45 PM	24	1	6	0	7	5	8	0	7	39	11	0	6	57	0	0	171
6:00 PM	17	1	6	0	1	3	7	0	1	46	15	0	6	42	2	0	147
6:15 PM	13	0	10	0	5	3	7	0	1	33	16	0	5	45	2	0	140
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	161	6	62	0	24	13	48	0	21	485	154	0	58	449	10	0	1491
APPROACH %'s :	70.31%	2.62%	27.07%	0.00%	28.24%	15.29%	56.47%	0.00%	3.18%	73.48%	23.33%	0.00%	11.22%	86.85%	1.93%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	83	2	32	0	10	2	22	0	8	321	96	0	35	230	5	0	846
PEAK HR FACTOR :	0.865	0.500	0.800	0.000	0.625	0.500	0.786	0.000	0.500	0.772	0.750	0.000	0.729	0.858	0.625	0.000	0.912
	0.914				0.773				0.811				0.912				

Prepared by National Data & Surveying Services

Gird Rd & Reche Rd

Peak Hour Turning Movement Count

ID: 19-04180-002
City: Fallbrook

Day: Saturday
Date: 04/13/2019

	PEAK HOURS	COUNT PERIODS
AM	NONE	NONE
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	04:30 PM - 06:30 PM

Gird Rd — SOUTHBOUND

AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	22	2	10	0	15
	0	1	0	0	

Reche Rd — EASTBOUND

AM	NOON	PM	
0	0	335	
0	0	0	0
0	0	8	1
0	0	321	1
0	0	96	0

Reche Rd — WESTBOUND

	PM	NOON	AM
0	5	0	0
1	230	0	0
1	35	0	0
0	0	0	0
	363	0	0

CONTROL

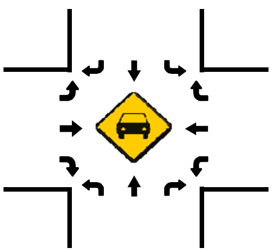
Signalized

	AM	NOON	PM
TEV	0	0	846
PHF			0.91

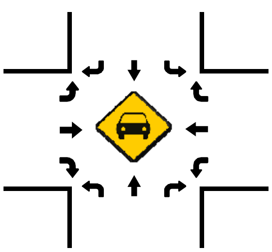
Gird Rd — NORTHBOUND

		0	0	1	0
PM	133	0	83	2	32
NOON	0	0	0	0	0
AM	0	0	0	0	0

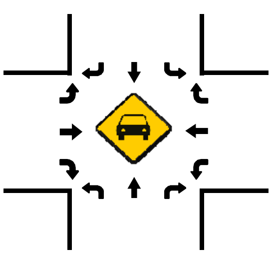
Total Vehicles (AM)



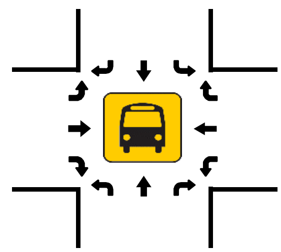
Total Vehicles (NOON)



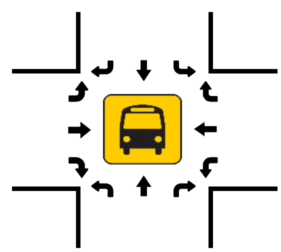
Total Vehicles (PM)



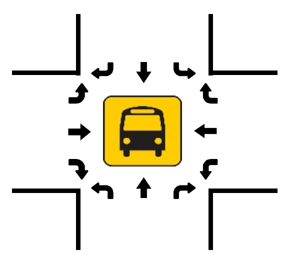
Total Vehicles (AM)



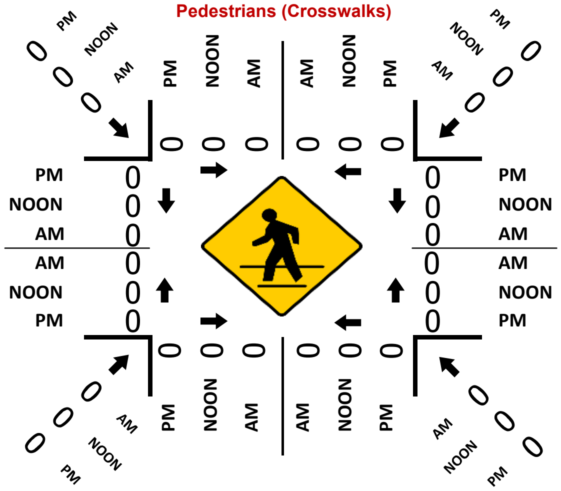
Total Vehicles (NOON)



Total Vehicles (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services Intersection Turning Movement Count

Location: Gird Rd & Hwy 76
City: Fallbrook
Control: Signalized

Project ID: 19-04180-001
Date: 2019-04-13

Total

NS/EW Streets:	Gird Rd				Gird Rd				Hwy 76				Hwy 76				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	0	0	0	1	0	1	0	1	2	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	12	0	25	0	30	279	0	0	0	212	14	0	572
4:45 PM	0	0	0	0	8	0	27	0	28	294	0	0	0	318	19	0	694
5:00 PM	0	0	0	0	12	0	33	0	26	281	0	0	0	228	18	1	599
5:15 PM	0	0	0	0	9	0	23	0	19	263	0	0	0	275	19	0	608
5:30 PM	0	0	0	0	7	0	27	0	22	283	0	0	0	255	16	1	611
5:45 PM	0	0	0	0	11	0	23	0	26	271	0	1	0	205	16	0	553
6:00 PM	0	0	0	0	3	0	27	0	19	231	0	1	0	242	10	0	533
6:15 PM	0	0	0	0	9	0	26	0	24	254	0	0	0	232	13	0	558
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	71	0	211	0	194	2156	0	2	0	1967	125	2	4728
APPROACH %'s :					25.18%	0.00%	74.82%	0.00%	8.25%	91.67%	0.00%	0.09%	0.00%	93.94%	5.97%	0.10%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	36	0	110	0	95	1121	0	0	0	1076	72	2	2512
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.000	0.833	0.000	0.848	0.953	0.000	0.000	0.000	0.846	0.947	0.500	0.905
					0.811				0.944				0.853				

Prepared by National Data & Surveying Services

Gird Rd & Hwy 76

Peak Hour Turning Movement Count

ID: 19-04180-001
City: Fallbrook

Day: Saturday
Date: 04/13/2019

PEAK HOURS		COUNT PERIODS
AM	NONE	NONE
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	04:30 PM - 06:30 PM

Gird Rd — SOUTHBOUND

	Right	Thru	Left	U-Turn	Exit
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	110	0	36	0	167
Lanes	1	0	1	0	

Hwy 76 — EASTBOUND

	AM	NOON	PM	Lanes
Exit	0	0	1186	
U-Turn	0	0	0	0
Left	0	0	95	1
Thru	0	0	1121	2
Right	0	0	0	0

Hwy 76 — WESTBOUND

	Lanes	PM	NOON	AM
Right	1	72	0	0
Thru	2	1076	0	0
Left	1	0	0	0
U-Turn	0	2	0	0
Exit		1159	0	0

Gird Rd — NORTHBOUND

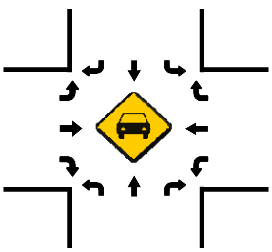
	Exit	U-Turn	Left	Thru	Right
Lanes		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

CONTROL

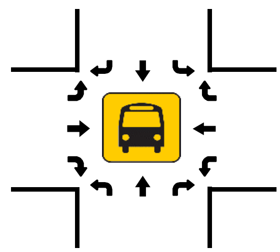
Signalized

	AM	NOON	PM
TEV	0	0	2512
PHF			0.90

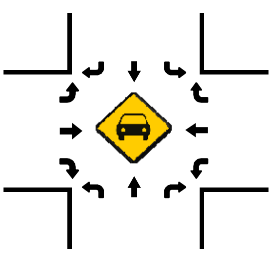
Total Vehicles (AM)



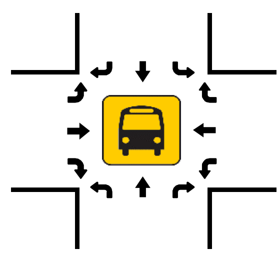
Total Vehicles (AM)



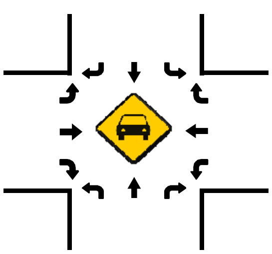
Total Vehicles (NOON)



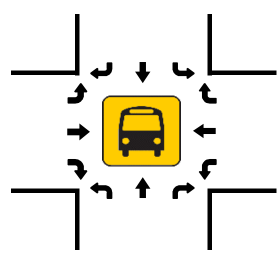
Total Vehicles (NOON)



Total Vehicles (PM)



Total Vehicles (PM)



Pedestrians (Crosswalks)

	AM	NOON	PM
North leg (west side)	0	0	0
North leg (east side)	0	0	0
West leg (north)	0	0	0
West leg (south)	0	0	0
East leg (north)	0	0	0
East leg (south)	0	0	0
South leg (west side)	0	0	0
South leg (east side)	0	0	0
NW diagonal	0	0	0
NE diagonal	0	0	0
SW diagonal	0	0	0
SE diagonal	0	0	0

This page intentionally left blank

Appendix C: Existing Synchro Worksheets

Michael Baker INTERNATIONAL

This page intentionally left blank

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	321	96	35	230	5	83	2	32	10	2	22
Future Volume (veh/h)	8	321	96	35	230	5	83	2	32	10	2	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	396	119	38	253	5	91	2	35	13	3	29
Peak Hour Factor	0.81	0.81	0.81	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	642	498	150	349	358	7	253	3	45	138	30	119
Arrive On Green	0.36	0.36	0.36	0.20	0.20	0.20	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	1381	415	1781	1828	36	1080	24	415	325	282	1099
Grp Volume(v), veh/h	10	0	515	38	0	258	128	0	0	45	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1796	1781	0	1864	1519	0	0	1706	0	0
Q Serve(g_s), s	0.2	0.0	11.6	0.8	0.0	5.8	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	11.6	0.8	0.0	5.8	3.6	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.02	0.71		0.27	0.29		0.64
Lane Grp Cap(c), veh/h	642	0	648	349	0	365	301	0	0	287	0	0
V/C Ratio(X)	0.02	0.00	0.80	0.11	0.00	0.71	0.43	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	1069	0	1078	701	0	734	790	0	0	847	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	12.9	14.9	0.0	16.9	19.4	0.0	0.0	18.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.3	0.1	0.0	2.5	1.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.8	0.3	0.0	2.3	1.1	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	0.0	15.2	15.0	0.0	19.4	20.4	0.0	0.0	18.6	0.0	0.0
LnGrp LOS	A	A	B	B	A	B	C	A	A	B	A	A
Approach Vol, veh/h		525			296			128			45	
Approach Delay, s/veh		15.1			18.8			20.4			18.6	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	21.1	10.1	13.7	10.1
Change Period (Y+Rc), s	4.9	* 5.3	4.9	5.3
Max Green Setting (Gmax), s	27.0	* 21	17.7	20.2
Max Q Clear Time (g_c+I1), s	13.6	3.1	7.8	5.6
Green Ext Time (p_c), s	2.7	0.1	1.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	1121	0	2	1076	72	0	0	0	36	0	110
Future Volume (veh/h)	95	1121	0	2	1076	72	0	0	0	36	0	110
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	101	1193	0	2	1266	85				44	0	136
Peak Hour Factor	0.94	0.94	0.92	0.92	0.85	0.85				0.81	0.92	0.81
Percent Heavy Veh, %	2	2	0	2	2	2				2	0	2
Cap, veh/h	125	2671	0	5	2387	1065				187	0	166
Arrive On Green	0.07	0.75	0.00	0.00	0.67	0.67				0.10	0.00	0.10
Sat Flow, veh/h	1781	3647	0	1781	3554	1585				1781	0	1585
Grp Volume(v), veh/h	101	1193	0	2	1266	85				44	0	136
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1585				1781	0	1585
Q Serve(g_s), s	6.7	15.1	0.0	0.1	21.8	2.2				2.7	0.0	10.1
Cycle Q Clear(g_c), s	6.7	15.1	0.0	0.1	21.8	2.2				2.7	0.0	10.1
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	125	2671	0	5	2387	1065				187	0	166
V/C Ratio(X)	0.81	0.45	0.00	0.42	0.53	0.08				0.24	0.00	0.82
Avail Cap(c_a), veh/h	148	2671	0	74	2387	1065				594	0	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	55.0	5.6	0.0	59.7	10.0	6.8				49.3	0.0	52.6
Incr Delay (d2), s/veh	23.6	0.5	0.0	49.1	0.8	0.1				0.6	0.0	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	4.0	0.0	0.1	7.1	0.7				1.2	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.6	6.1	0.0	108.8	10.9	7.0				49.9	0.0	62.1
LnGrp LOS	E	A	A	F	B	A				D	A	E
Approach Vol, veh/h		1294			1353						180	
Approach Delay, s/veh		11.8			10.8						59.1	
Approach LOS		B			B						E	
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	4.8	96.6		18.6	14.4	87.0						
Change Period (Y+Rc), s	4.5	6.4		6.0	6.0	6.4						
Max Green Setting (Gmax), s	5.0	58.1		40.0	10.0	51.6						
Max Q Clear Time (g_c+I1), s	2.1	17.1		12.1	8.7	23.8						
Green Ext Time (p_c), s	0.0	9.4		0.5	0.0	9.7						
Intersection Summary												
HCM 6th Ctrl Delay			14.3									
HCM 6th LOS			B									

Michael Baker
INTERNATIONAL

Appendix D:
Opening Year 2020
Without Project Conditions
Synchro Worksheets

This page intentionally left blank

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	327	98	36	235	5	85	2	33	10	2	22
Future Volume (veh/h)	8	327	98	36	235	5	85	2	33	10	2	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	404	121	40	258	5	93	2	36	13	3	29
Peak Hour Factor	0.81	0.81	0.81	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	649	503	151	351	361	7	253	3	46	136	32	121
Arrive On Green	0.36	0.36	0.36	0.20	0.20	0.20	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	1382	414	1781	1829	35	1077	23	417	316	290	1097
Grp Volume(v), veh/h	10	0	525	40	0	263	131	0	0	45	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1796	1781	0	1864	1517	0	0	1703	0	0
Q Serve(g_s), s	0.2	0.0	12.1	0.8	0.0	6.1	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	12.1	0.8	0.0	6.1	3.8	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.02	0.71		0.27	0.29		0.64
Lane Grp Cap(c), veh/h	649	0	654	351	0	368	301	0	0	289	0	0
V/C Ratio(X)	0.02	0.00	0.80	0.11	0.00	0.72	0.43	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	1045	0	1053	685	0	717	772	0	0	828	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.4	0.0	13.2	15.2	0.0	17.3	19.8	0.0	0.0	18.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.4	0.1	0.0	2.6	1.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.0	0.3	0.0	2.4	1.2	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.4	0.0	15.5	15.3	0.0	19.9	20.8	0.0	0.0	19.0	0.0	0.0
LnGrp LOS	A	A	B	B	A	B	C	A	A	B	A	A
Approach Vol, veh/h		535			303			131			45	
Approach Delay, s/veh		15.4			19.3			20.8			19.0	
Approach LOS		B			B			C			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.7		10.4		14.0		10.4				
Change Period (Y+Rc), s		4.9		* 5.3		4.9		5.3				
Max Green Setting (Gmax), s		27.0		* 21		17.7		20.2				
Max Q Clear Time (g_c+I1), s		14.1		3.1		8.1		5.8				
Green Ext Time (p_c), s		2.7		0.1		1.0		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			17.4									
HCM 6th LOS			B									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	1143	0	2	1098	73	0	0	0	37	0	112
Future Volume (veh/h)	97	1143	0	2	1098	73	0	0	0	37	0	112
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	103	1216	0	2	1292	86				46	0	138
Peak Hour Factor	0.94	0.94	0.92	0.92	0.85	0.85				0.81	0.92	0.81
Percent Heavy Veh, %	2	2	0	2	2	2				2	0	2
Cap, veh/h	127	2667	0	5	2378	1061				189	0	168
Arrive On Green	0.07	0.75	0.00	0.00	0.67	0.67				0.11	0.00	0.11
Sat Flow, veh/h	1781	3647	0	1781	3554	1585				1781	0	1585
Grp Volume(v), veh/h	103	1216	0	2	1292	86				46	0	138
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1585				1781	0	1585
Q Serve(g_s), s	6.8	15.6	0.0	0.1	22.7	2.3				2.8	0.0	10.2
Cycle Q Clear(g_c), s	6.8	15.6	0.0	0.1	22.7	2.3				2.8	0.0	10.2
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	127	2667	0	5	2378	1061				189	0	168
V/C Ratio(X)	0.81	0.46	0.00	0.42	0.54	0.08				0.24	0.00	0.82
Avail Cap(c_a), veh/h	148	2667	0	74	2378	1061				594	0	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	54.9	5.7	0.0	59.7	10.3	6.9				49.2	0.0	52.5
Incr Delay (d2), s/veh	24.3	0.6	0.0	49.1	0.9	0.1				0.7	0.0	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	4.2	0.0	0.1	7.4	0.7				1.3	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	6.2	0.0	108.8	11.2	7.1				49.9	0.0	62.0
LnGrp LOS	E	A	A	F	B	A				D	A	E
Approach Vol, veh/h		1319			1380						184	
Approach Delay, s/veh		11.9			11.1						59.0	
Approach LOS		B			B						E	
Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	4.8	96.4		18.7	14.6	86.7						
Change Period (Y+Rc), s	4.5	6.4		6.0	6.0	6.4						
Max Green Setting (Gmax), s	5.0	58.1		40.0	10.0	51.6						
Max Q Clear Time (g_c+I1), s	2.1	17.6		12.2	8.8	24.7						
Green Ext Time (p_c), s	0.0	9.7		0.5	0.0	9.9						
Intersection Summary												
HCM 6th Ctrl Delay			14.5									
HCM 6th LOS			B									

Appendix E: Opening Year 2020 With Project Synchro Worksheets

This page intentionally left blank

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	327	139	66	235	5	91	2	37	10	2	22
Future Volume (veh/h)	8	327	139	66	235	5	91	2	37	10	2	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	404	172	73	258	5	100	2	41	13	3	29
Peak Hour Factor	0.81	0.81	0.81	0.91	0.91	0.91	0.91	0.91	0.91	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	689	481	205	344	353	7	246	5	52	127	38	132
Arrive On Green	0.39	0.39	0.39	0.19	0.19	0.19	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	1245	530	1781	1829	35	1033	44	433	287	315	1091
Grp Volume(v), veh/h	10	0	576	73	0	263	143	0	0	45	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1775	1781	0	1864	1510	0	0	1693	0	0
Q Serve(g_s), s	0.2	0.0	14.9	1.7	0.0	6.7	3.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	14.9	1.7	0.0	6.7	4.6	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.02	0.70		0.29	0.29		0.64
Lane Grp Cap(c), veh/h	689	0	686	344	0	360	304	0	0	297	0	0
V/C Ratio(X)	0.01	0.00	0.84	0.21	0.00	0.73	0.47	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	953	0	949	625	0	654	705	0	0	757	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.5	0.0	14.1	17.1	0.0	19.1	21.4	0.0	0.0	20.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	4.9	0.3	0.0	2.9	1.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	5.4	0.6	0.0	2.7	1.5	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	0.0	19.0	17.4	0.0	22.0	22.5	0.0	0.0	20.3	0.0	0.0
LnGrp LOS	A	A	B	B	A	C	C	A	A	C	A	A
Approach Vol, veh/h		586			336			143			45	
Approach Delay, s/veh		18.8			21.0			22.5			20.3	
Approach LOS		B			C			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.4		11.4		14.6		11.4				
Change Period (Y+Rc), s		4.9		* 5.3		4.9		5.3				
Max Green Setting (Gmax), s		27.0		* 21		17.7		20.2				
Max Q Clear Time (g_c+I1), s		16.9		3.2		8.7		6.6				
Green Ext Time (p_c), s		2.6		0.1		1.1		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			20.0									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	19	132	131	121	71
Future Vol, veh/h	10	19	132	131	121	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	21	143	142	132	77

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	560	132	209	0	-	0
Stage 1	132	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	489	917	1362	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	438	917	1362	-	-	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1362	-	666	-	-
HCM Lane V/C Ratio	0.105	-	0.047	-	-
HCM Control Delay (s)	8	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	1143	0	2	1098	144	0	0	0	47	0	121
Future Volume (veh/h)	158	1143	0	2	1098	144	0	0	0	47	0	121
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870				1870	0	1870
Adj Flow Rate, veh/h	168	1216	0	2	1292	169				58	0	149
Peak Hour Factor	0.94	0.94	0.92	0.92	0.85	0.85				0.81	0.92	0.81
Percent Heavy Veh, %	2	2	0	2	2	2				2	0	2
Cap, veh/h	193	2640	0	5	2220	990				202	0	180
Arrive On Green	0.11	0.74	0.00	0.00	0.62	0.62				0.11	0.00	0.11
Sat Flow, veh/h	1781	3647	0	1781	3554	1585				1781	0	1585
Grp Volume(v), veh/h	168	1216	0	2	1292	169				58	0	149
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1585				1781	0	1585
Q Serve(g_s), s	11.1	16.0	0.0	0.1	25.7	5.4				3.6	0.0	11.0
Cycle Q Clear(g_c), s	11.1	16.0	0.0	0.1	25.7	5.4				3.6	0.0	11.0
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	193	2640	0	5	2220	990				202	0	180
V/C Ratio(X)	0.87	0.46	0.00	0.42	0.58	0.17				0.29	0.00	0.83
Avail Cap(c_a), veh/h	193	2640	0	74	2220	990				594	0	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	52.7	6.0	0.0	59.7	13.3	9.5				48.7	0.0	52.0
Incr Delay (d2), s/veh	32.2	0.6	0.0	49.1	1.1	0.4				0.8	0.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	4.4	0.0	0.1	9.0	1.7				1.6	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.9	6.6	0.0	108.8	14.4	9.8				49.5	0.0	61.3
LnGrp LOS	F	A	A	F	B	A				D	A	E
Approach Vol, veh/h		1384			1463						207	
Approach Delay, s/veh		16.1			14.0						58.0	
Approach LOS		B			B						E	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	4.8	95.6		19.6	19.0	81.4
Change Period (Y+Rc), s	4.5	6.4		6.0	6.0	6.4
Max Green Setting (Gmax), s	5.0	58.1		40.0	13.0	48.6
Max Q Clear Time (g_c+I1), s	2.1	18.0		13.0	13.1	27.7
Green Ext Time (p_c), s	0.0	9.7		0.6	0.0	9.2

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

This page intentionally left blank

Appendix F:
Sight Distance Certification

This page intentionally left blank

Michael Baker
INTERNATIONAL

We Make a Difference

April 23, 2019 JN 160734

Department of Public Works
County of San Diego
Traffic Engineering
5510 Overland Ave., Suite 410
San Diego, CA 92123

RE: Sight Distance Certification – Monserate Winery Main Gate

I certify that there is 450 feet of unobstructed intersectional sight distance in the northbound direction from the Monserate Winery main gate along Gird Road and 450 feet of unobstructed intersectional sight distance in the southbound direction from the Monserate Winery main gate along Gird Road measured in accordance with the methodology described in Table 5 of the March 2012 County of San Diego Public Road Standards.

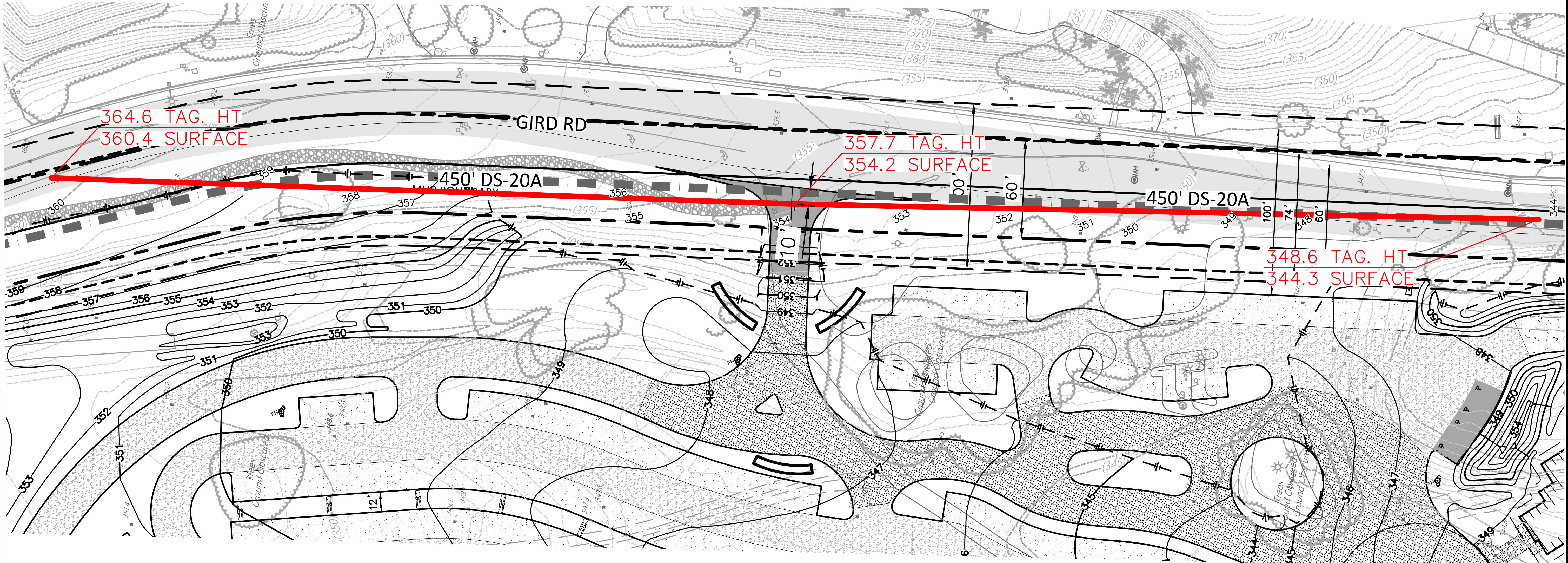
These sight distances meet the required intersectional Sight Distance requirement of 450 feet as interpolated from Table 5 based on a speed of 45 mph, which I have verified to be the higher of the prevailing speed (45 mph) and the minimum design speed (40 mph) of the road classification (Light Collector 2.2E).

I have exercised responsible charge for the certification as defined in Section 6703 of the Professional Engineers Act of the California Business and Professions Code.

Sincerely,

Jay Sullivan, PE

MBAKERINTL.COM
9755 Clairemont Mesa Boulevard | San Diego, CA 92124
Office: 858.614.5000| Fax: 858.614.5001



LOOKING NORTH @ MAIN ACCESS

IMAGE SOURCE: GOOGLE MAP

LOOKING SOUTH @ MAIN ACCESS

IMAGE SOURCE: GOOGLE MAP

SCALE 1"=60'

60 120

MONSERATE WINERY

COUNTY OF SAN DIEGO, CA

SIGHT DISTANCE

MAIN ENTRANCE

APRIL 23, 2019

Michael Baker
INTERNATIONAL

9755 Clairemont Mesa Blvd.
San Diego, CA 92124
Phone: (858) 614-5000
MBAKERINTL.COM

H:\PDATA\160734\CADD\PLANNING\DLV\160734-SIGHT DIST -MAIN ENTRY.DWG BUTTS, KIMBERLY 4/23/2019 6:51 PM