

**APPENDIX F:  
TRANSPORTATION AND TRAFFIC**

December 16, 2013

Mr. Jim Todd  
California Gold Development Corporation  
133 Old Wards Ferry Road, Suite G  
Sonora, CA 95370

**Subject: Lake Elsinore Tractor Supply Company - Traffic Analysis (JN 0092-0002)**

Dear Mr. Todd:

Trames Solutions Inc. is pleased to submit the following traffic analysis for the proposed Tractor Supply Company project. It is our understanding that the project consists of a 19,031 square foot tractor supply building. The site is located on the northwest corner of Collier Avenue and Enterprise Way in the City of Lake Elsinore (See Figure A).

The following tasks have been conducted to determine the potential impacts of the proposed project on the adjacent roadway system:

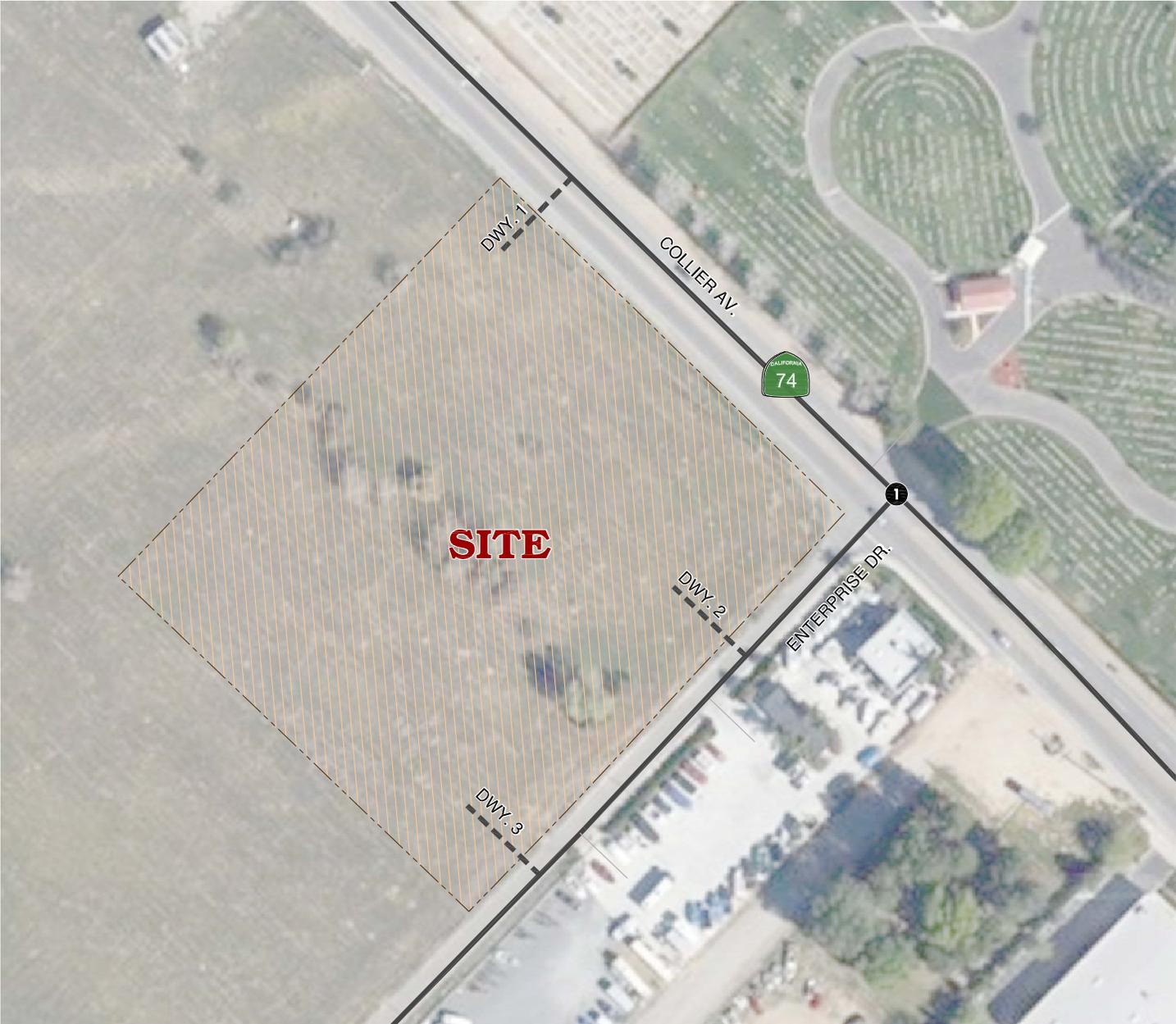
- Determine the peak and daily trip generation for the proposed project.
- Route the project traffic to the surrounding roadway network
- Evaluate existing traffic conditions
- Evaluate traffic conditions with the development of the proposed project

## **PROJECT TRIP GENERATION**

The number of trips generated by a project is based on the specific uses proposed and the size of the overall project. The Institute of Transportation Engineers, **Trip Generation** manual (9<sup>th</sup> Edition, 2012) is the industry standard in determining the number of trips generated by a development project on a daily and peak hour basis. The 19,031 square foot tractor supply building is a unique use that serves farming activities. The ITE manual has trip rates for the evening peak hour but does not have trip rates for the morning and daily conditions. The description for a home improvement store which sells hardware, lumber, etc. most closely resembles the proposed project. However, since a home improvement store sells many items that the proposed tractor supply store will not, the AM and daily trip rate can be considered to be conservatively high. The trip rates are presented on Table 1.

Based on the land use assumptions for the project, it is anticipated that the tractor supply store would generate approximately 585 trips per day with 28 AM peak hour trip ends and

# FIGURE A STUDY AREA



**LEGEND:**

-  = INTERSECTION ANALYSIS LOCATION
-  = FUTURE ROADWAY / PROJECT DRIVEWAY



**TABLE 1**  
**TRIP GENERATION RATES<sup>1</sup>**

Land Use	ITE Code	Quantity <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Tractor Supply Store	810	19.031 TSF	0.85	0.63	1.48	0.66	0.74	1.40	30.74

<sup>1</sup> Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 9th Edition, 2012.

<sup>2</sup> TSF = Thousand Square Feet

27 PM peak hour trip ends. Table 2 summarizes the trip generation estimates for the proposed project.

### **DRIVEWAY LOCATIONS**

The project will provide two driveways to serve the site off of Enterprise and one driveway directly to Collier Avenue. The westerly driveway along Enterprise Way will mainly accommodate truck trips entering the site off of Collier Avenue. The trucks will drop off their deliveries at the back of the building and exit the site via the driveway on Collier Avenue. Figure B illustrates the driveway locations.

### **EXISTING TRAFFIC VOLUMES**

Empirical peak hour (7 AM-9 AM and 4 PM- 6 PM) traffic counts were collected at the intersection of Collier Avenue/Enterprise Way on December 5, 2013. Figure C illustrates the turning movement counts at the study intersection. The traffic count worksheets are provided in Attachment A.

### **PROJECT TRIP DISTRIBUTION AND ASSIGNMENT**

It is anticipated that approximately 20% of the traffic to/from the project will come from the north and the remaining 80% will travel south on Collier Avenue. Passenger vehicles from the north are expected to enter the site via the northerly driveway while trucks will be directed to bypass this entrance and continue to the Enterprise Way Driveway. The trip distribution patterns are illustrated on Figure D. The resulting project-only peak hour traffic volumes are illustrated on Figure E.

### **TRAFFIC ANALYSIS**

The empirical traffic counts were used as the basis in determining the current intersection operations. The analysis is based on the 2000 Highway Capacity Manual (HCM) (Transportation Research Board Special Report 209). The HCM defines level of service as a qualitative measure, which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate Level of Service (LOS) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control.

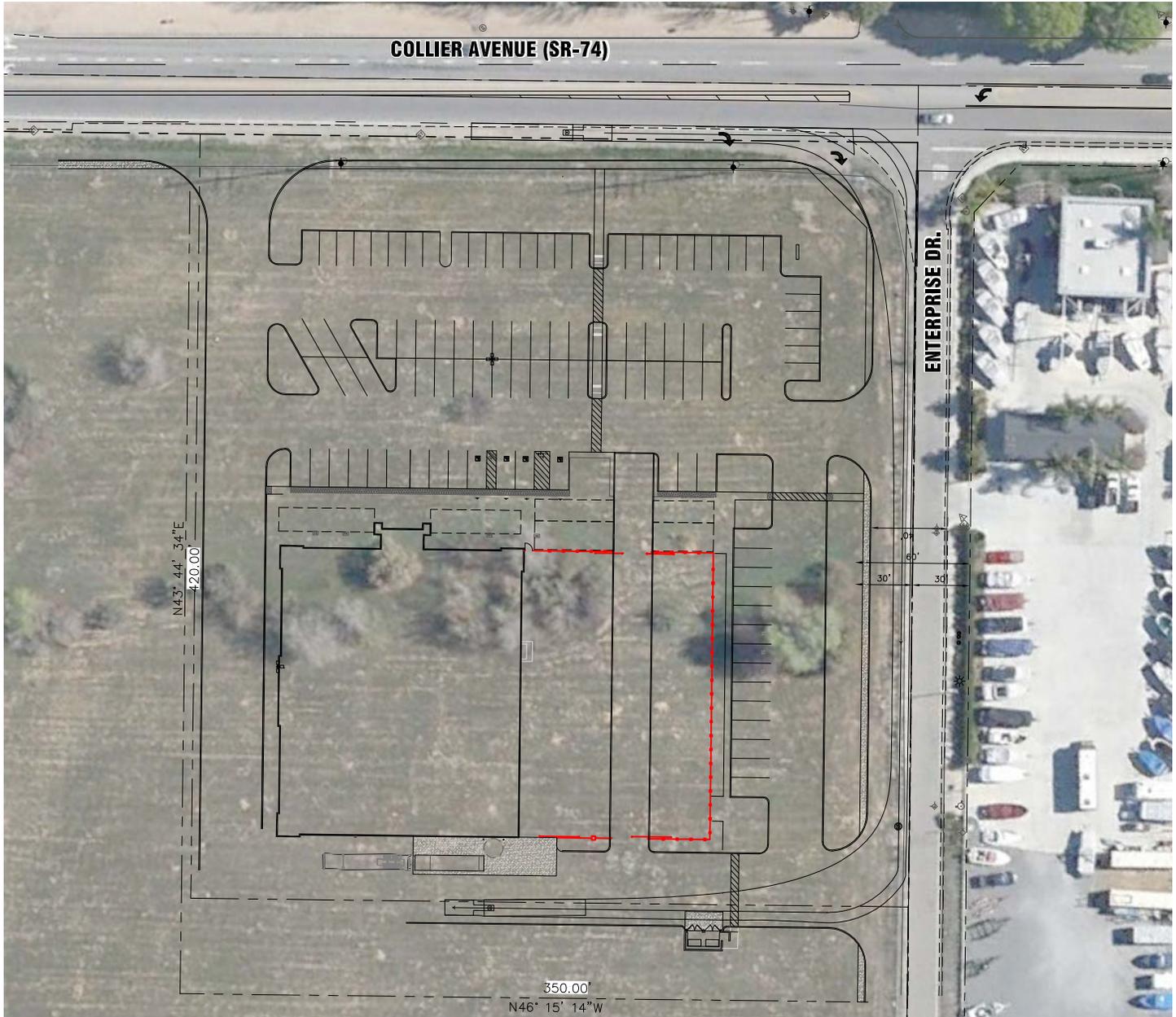
The level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The Levels of Service results in this study are determined using the HCM methodology.

**TABLE 2**  
**TRIP GENERATION SUMMARY**

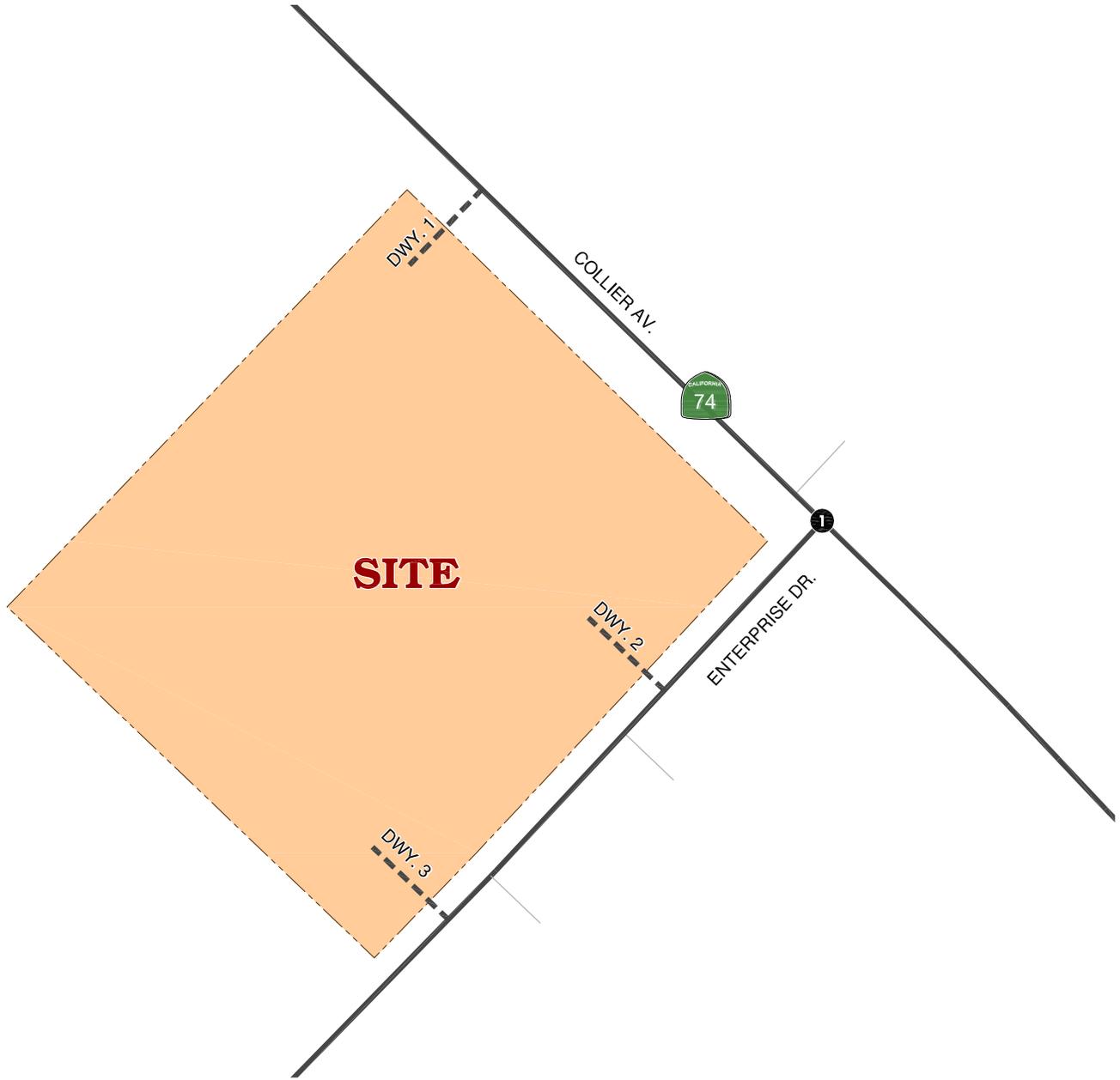
Land Use	Quantity <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Tractor Supply Store	19.031 TSF	16	12	28	13	14	27	585
<b>TOTAL</b>		<b>16</b>	<b>12</b>	<b>28</b>	<b>13</b>	<b>14</b>	<b>27</b>	<b>585</b>

<sup>1</sup> TSF = Thousand Square Feet

# FIGURE B SITE PLAN



# FIGURE C EXISTING (2013) PEAK HOUR INTERSECTION VOLUMES



1. COLLIER AV. (SR-74) / ENTERPRISE DR.			
AM PEAK HOUR		PM PEAK HOUR	

**LEGEND:**

- = INTERSECTION ANALYSIS LOCATION
- = FUTURE ROADWAY / PROJECT DRIVEWAY



# FIGURE D PROJECT TRIP DISTRIBUTION

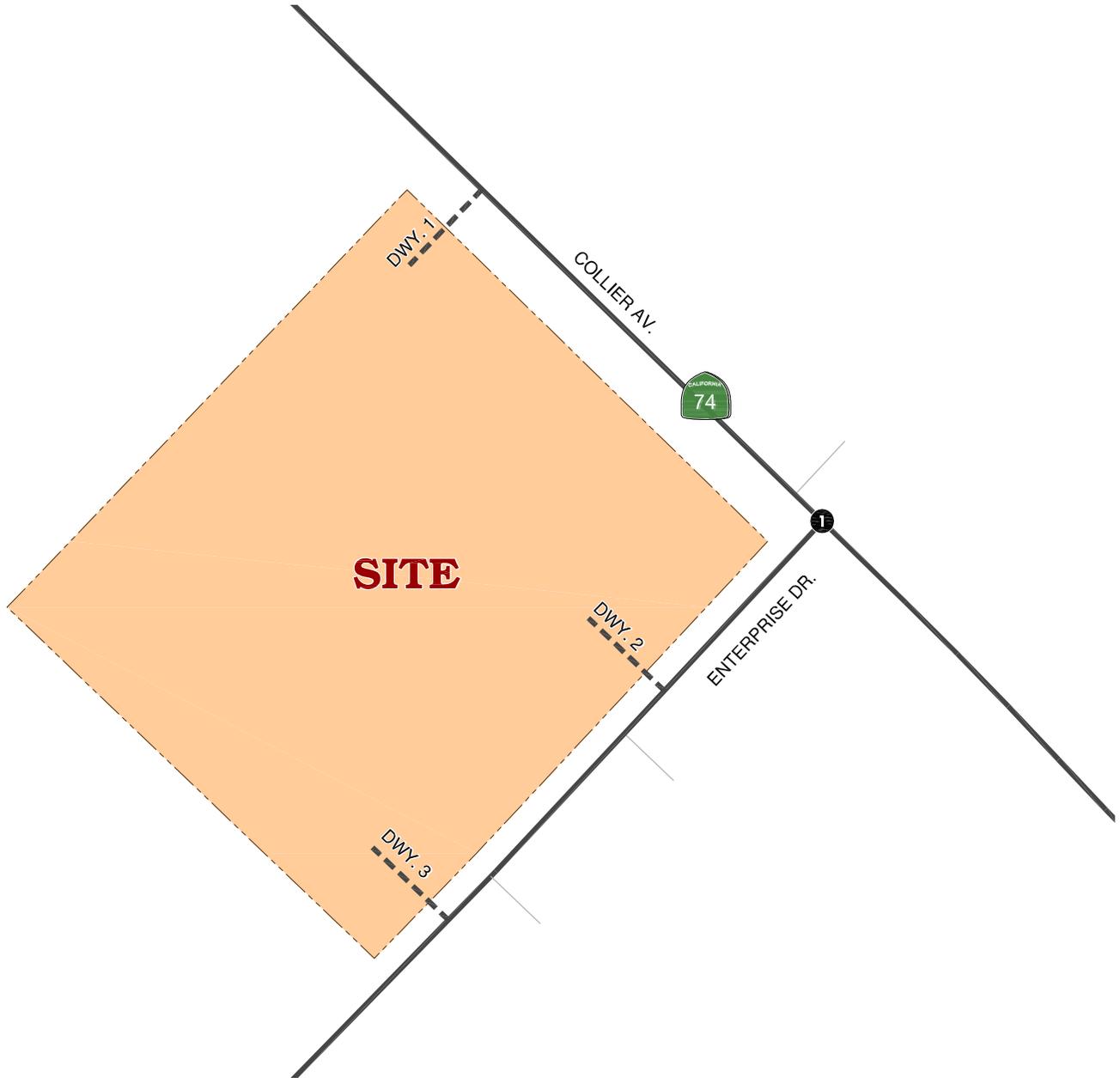


**LEGEND:**

- ▶ 10% = PERCENT FROM PROJECT (OUTBOUND)
- ▶ 10% = PERCENT TO PROJECT (INBOUND)



# FIGURE E PROJECT ONLY PEAK HOUR INTERSECTION VOLUMES



1. COLLIER AV. (SR-74) / ENTERPRISE DR.			
AM PEAK HOUR		PM PEAK HOUR	

**LEGEND:**

- = INTERSECTION ANALYSIS LOCATION
- = FUTURE ROADWAY / PROJECT DRIVEWAY



Intersections that are stop sign controlled with stop control on the minor street only have been analyzed using the unsignalized intersection methodology of the HCM. The calculation of level of service is dependent on the occurrence of gaps occurring in the traffic flow of the main street. Using data collected describing the intersection configuration and traffic volumes at the study area locations; the level of service has been calculated. The level of service criteria for this type of intersection analysis is based on average total delay per vehicle for the worst minor street movement(s).

The levels of service are defined as follows:

LEVEL OF SERVICE	AVERAGE TOTAL DELAY PER VEHICLE (SECONDS)
	UNSIGNALIZED
A	0 to 10.00
B	10.01 to 15.00
C	15.01 to 25.00
D	25.01 to 35.00
E	35.01 to 50.00
F	50.01 and up

Traffic operations are quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an infrastructure facility (intersection) representing progressively worsening traffic conditions.

#### Level of Service Definition

The definitions of Level of Service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS "A": Completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
- LOS "B": Free flow conditions, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS "A", but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.

- LOS "C": The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.
- LOS "D": The ability to maneuver is restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
- LOS "E": Operations at or near capacity, an unstable level. Vehicles are operating with the minimum spacing for maintaining uniform flow.
- LOS "F": Forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

#### City of Lake Elsinore Level of Service Criteria

The City of Lake Elsinore has established Level of Service (LOS) "D" as the maximum allowable threshold for the intersection operations. Therefore, LOS "E" or "F" is considered unacceptable and requires improvements measures.

#### Existing Conditions

Based on the existing traffic control (stop sign on Enterprise Way), current lane geometry, and empirical peak hour counts, the intersection of Collier Avenue/Enterprise Way is operating at acceptable service levels. Table 3 below summarizes the delay and corresponding level of service during the morning and evening peak hours.

**TABLE 3**  
**INTERSECTION ANALYSIS FOR**  
**EXISTING CONDITIONS**

Intersection	Traffic Control <sup>1</sup>	Intersection Approach Lanes <sup>2</sup>												DELAY <sup>3</sup> (SECS.)		LEVEL OF SERVICE	
		NB			SB			EB			WB			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Collier Ave./ Enterprise Way	CSS	0	2	0	0	1	0	0	1	0	0	0	0	19.4	19.1	C	C

<sup>1</sup> CSS = Cross Street Stop

<sup>2</sup> L = Left; T = Through; R = Right;

<sup>3</sup> Delay and level of service calculated using the following analysis software: Traffix

**Opening Year with Project Conditions**

The proposed project is anticipated to be built by 2014. Therefore a 2% ambient growth rate has been applied to the existing counts to reflect growth in the area. The City of Lake Elsinore has been contacted to determine if any nearby, unbuilt developments could be constructed commensurately with the project. It has been determined that no projects in the vicinity of the site would be developed by the 2014 timeframe. The resulting peak hour traffic volumes including the project traffic are shown on Figure F.

Table 4 presents the level of service summary for Opening Year with Project traffic conditions at the Collier Ave./Enterprise Way intersection. In order to accommodate project traffic on Collier Avenue and reduce delays/conflicts, a northbound left turn lane and a southbound right turn lane has been assumed at the study intersection.

**TABLE 4**  
**INTERSECTION ANALYSIS FOR**  
**OPENING YEAR (2014) WITH PROJECT CONDITIONS**

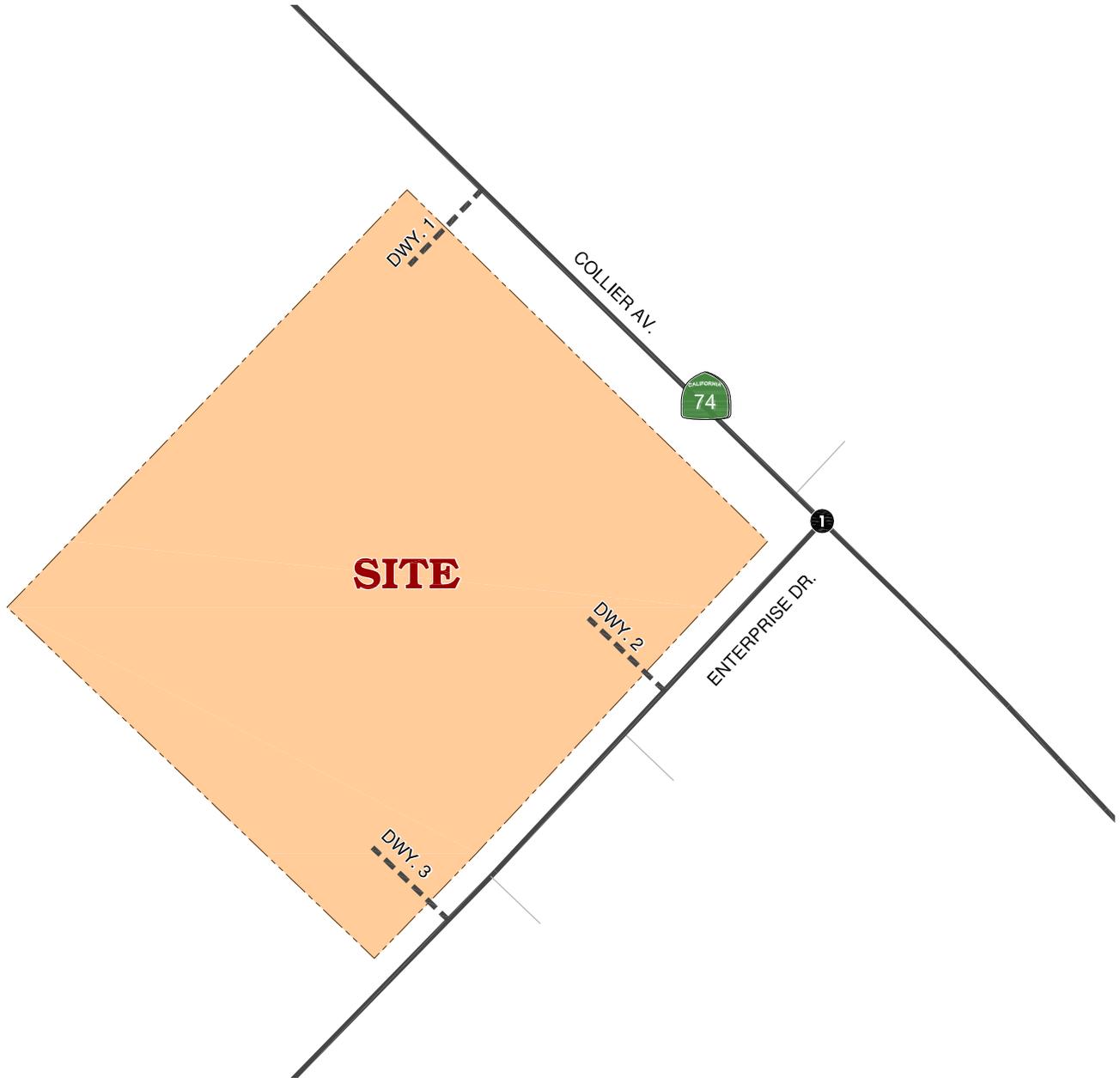
Intersection	Traffic Control <sup>1</sup>	Intersection Approach Lanes <sup>2</sup>												DELAY <sup>3</sup> (SECS.)		LEVEL OF SERVICE	
		NB			SB			EB			WB			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Collier Ave./ Enterprise Way	CSS	1	2	0	0	1	1	0	1	0	0	0	0	18.2	25.0	C	D

<sup>1</sup> CSS = Cross Street Stop

<sup>2</sup> L = Left; T = Through; R = Right;

<sup>3</sup> Delay and level of service calculated using the following analysis software: Traffix

# FIGURE F E+A+C+P (2014) PEAK HOUR INTERSECTION VOLUMES



1. COLLIER AV. (SR-74) / ENTERPRISE DR.			
AM PEAK HOUR		PM PEAK HOUR	

**LEGEND:**

- = INTERSECTION ANALYSIS LOCATION
- = FUTURE ROADWAY / PROJECT DRIVEWAY



Mr. Jim Todd  
California Gold Development Corporation  
December 16, 2013

Based on the analysis presented above, the project can be accommodated without significantly impacting the Collier Avenue/Enterprise Way intersection. The level of service worksheets are included in Attachment B.

## **CONCLUSIONS**

The proposed project will consist of a 19,031 square foot tractor supply building which is estimated to generate 585 trips per day with 28 AM peak hour trip ends and 27 PM peak hour trip ends. Three driveways will be provided to serve the project site.

Based on the operational analysis for the Collier Avenue/Enterprise Way intersection, the project will not cause a significant impact during the peak hours at its opening year timeframe. The improvement of a northbound left turn lane and a southbound right turn lane at Collier Avenue/Enterprise Way is recommended to accommodate the project inbound traffic and reduce the delays/conflicts with the adjacent through traffic.

If there are any questions regarding the evaluation provided above, please do not hesitate to call me at (949) 244-2436.

Respectfully submitted,

Trames Solutions Inc.



Scott Sato, P.E.  
Senior Associate

**ATTACHMENT A**

TRAFFIC COUNT WORKSHEETS

City of Lake Elsinore  
 N/S: Enterprise  
 E/W: Collier Avenue  
 Weather: Sunny

File Name : LKEENCOAM  
 Site Code : 20113498  
 Start Date : 12/5/2013  
 Page No : 1

Groups Printed- Total Volume

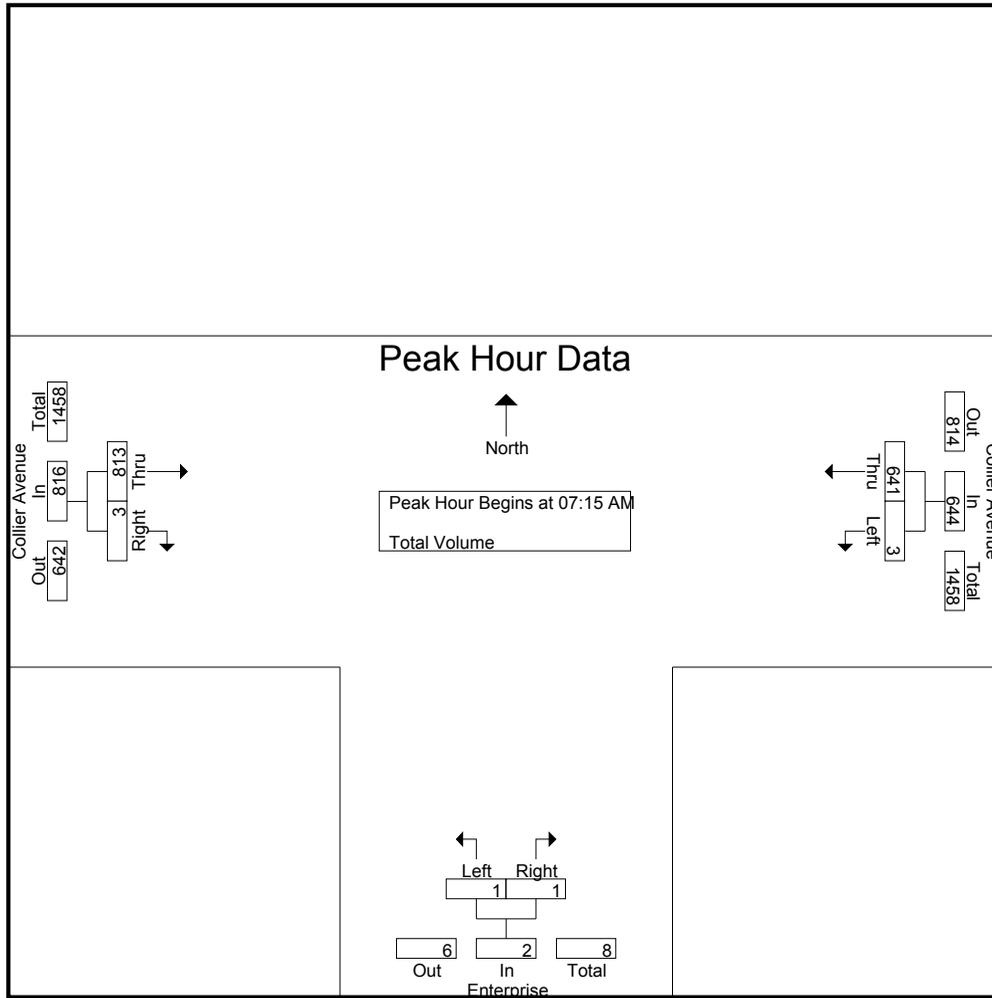
Start Time	Collier Avenue Westbound			Enterprise Northbound			Collier Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	131	131	0	1	1	165	1	166	298
07:15 AM	0	175	175	1	1	2	198	1	199	376
07:30 AM	1	142	143	0	0	0	187	2	189	332
07:45 AM	0	160	160	0	0	0	234	0	234	394
Total	1	608	609	1	2	3	784	4	788	1400
08:00 AM	2	164	166	0	0	0	194	0	194	360
08:15 AM	4	130	134	0	1	1	174	0	174	309
08:30 AM	3	133	136	1	1	2	181	1	182	320
08:45 AM	3	130	133	0	2	2	160	0	160	295
Total	12	557	569	1	4	5	709	1	710	1284
Grand Total	13	1165	1178	2	6	8	1493	5	1498	2684
Apprch %	1.1	98.9		25	75		99.7	0.3		
Total %	0.5	43.4	43.9	0.1	0.2	0.3	55.6	0.2	55.8	

Start Time	Collier Avenue Westbound			Enterprise Northbound			Collier Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	<b>175</b>	<b>175</b>	<b>1</b>	<b>1</b>	<b>2</b>	198	1	199	376
07:30 AM	1	142	143	0	0	0	187	<b>2</b>	189	332
07:45 AM	0	160	160	0	0	0	<b>234</b>	0	<b>234</b>	<b>394</b>
08:00 AM	<b>2</b>	164	166	0	0	0	194	0	194	360
Total Volume	3	641	644	1	1	2	813	3	816	1462
% App. Total	0.5	99.5		50	50		99.6	0.4		
PHF	.375	.916	.920	.250	.250	.250	.869	.375	.872	.928

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Lake Elsinore  
 N/S: Enterprise  
 E/W: Collier Avenue  
 Weather: Sunny

File Name : LKEENCOAM  
 Site Code : 20113498  
 Start Date : 12/5/2013  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM			08:00 AM			07:15 AM		
+0 mins.	0	<b>175</b>	<b>175</b>	0	0	0	198	1	199
+15 mins.	1	142	143	0	1	1	187	2	189
+30 mins.	0	160	160	1	1	2	<b>234</b>	0	<b>234</b>
+45 mins.	2	164	166	0	2	2	194	0	194
Total Volume	3	641	644	1	4	5	813	3	816
% App. Total	0.5	99.5		20	80		99.6	0.4	
PHF	.375	.916	.920	.250	.500	.625	.869	.375	.872

City of Lake Elsinore  
 N/S: Enterprise  
 E/W: Collier Avenue  
 Weather: Sunny

File Name : LKEENCOPM  
 Site Code : 20113498  
 Start Date : 12/5/2013  
 Page No : 1

Groups Printed- Total Volume

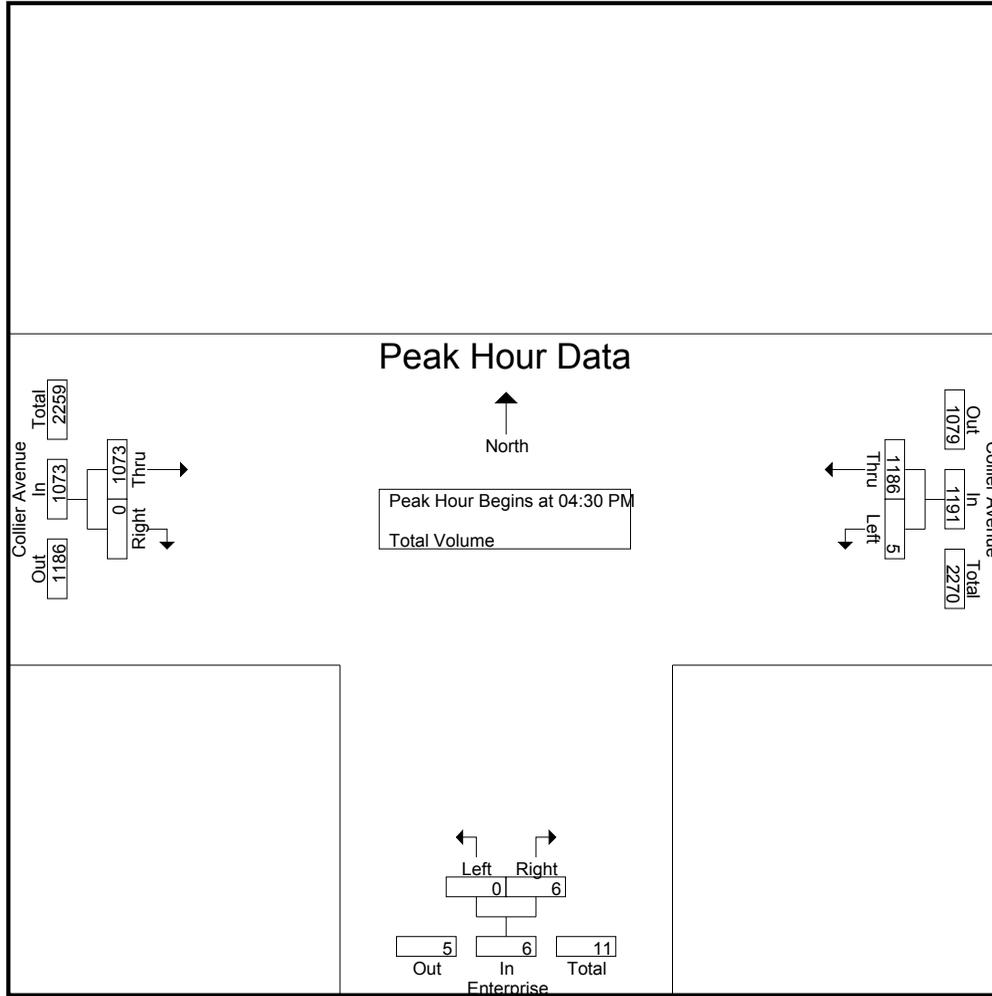
Start Time	Collier Avenue Westbound			Enterprise Northbound			Collier Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	260	260	0	0	0	253	1	254	514
04:15 PM	4	255	259	1	1	2	259	1	260	521
04:30 PM	0	308	308	0	2	2	269	0	269	579
04:45 PM	1	290	291	0	1	1	289	0	289	581
Total	5	1113	1118	1	4	5	1070	2	1072	2195
05:00 PM	3	322	325	0	2	2	251	0	251	578
05:15 PM	1	266	267	0	1	1	264	0	264	532
05:30 PM	0	265	265	0	1	1	215	0	215	481
05:45 PM	0	248	248	0	0	0	249	0	249	497
Total	4	1101	1105	0	4	4	979	0	979	2088
Grand Total	9	2214	2223	1	8	9	2049	2	2051	4283
Apprch %	0.4	99.6		11.1	88.9		99.9	0.1		
Total %	0.2	51.7	51.9	0	0.2	0.2	47.8	0	47.9	

Start Time	Collier Avenue Westbound			Enterprise Northbound			Collier Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	308	308	0	2	2	269	0	269	579
04:45 PM	1	290	291	0	1	1	<b>289</b>	0	<b>289</b>	<b>581</b>
05:00 PM	3	<b>322</b>	<b>325</b>	0	2	2	251	0	251	578
05:15 PM	1	266	267	0	1	1	264	0	264	532
Total Volume	5	1186	1191	0	6	6	1073	0	1073	2270
% App. Total	0.4	99.6		0	100		100	0		
PHF	.417	.921	.916	.000	.750	.750	.928	.000	.928	.977

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Lake Elsinore  
 N/S: Enterprise  
 E/W: Collier Avenue  
 Weather: Sunny

File Name : LKEENCOPM  
 Site Code : 20113498  
 Start Date : 12/5/2013  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:15 PM			04:30 PM		
+0 mins.	0	308	308	1	1	2	269	0	269
+15 mins.	1	290	291	0	2	2	<b>289</b>	0	<b>289</b>
+30 mins.	3	322	325	0	1	1	251	0	251
+45 mins.	1	266	267	0	2	2	264	0	264
Total Volume	5	1186	1191	1	6	7	1073	0	1073
% App. Total	0.4	99.6		14.3	85.7		100	0	
PHF	.417	.921	.916	.250	.750	.875	.928	.000	.928

**ATTACHMENT B**

INTERSECTION ANALYSIS CALCULATION WORKSHEETS

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 Lake Elsinore Tractor Supply  
 Existing (2013) Conditions  
 AM Peak Hour  
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Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
 Intersection #1 Collier Av. (SR74) (NS) / Enterprise Dr. (EW)  
 \*\*\*\*\*

Average Delay (sec/veh):        0.0            Worst Case Level Of Service: C[ 19.4]  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	1	0	0	0	1	0	0	1	0	0	0

Volume Module:

Base Vol:	3	641	0	0	813	3	1	0	1	0	0	0
Growth 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
Initial Bse:	3	641	0	0	813	3	1	0	1	0	0	0
User 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
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	3	691	0	0	876	3	1	0	1	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	3	691	0	0	876	3	1	0	1	0	0	0

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	879	xxxx	xxxxx	xxxx	xxxx	xxxxx	1230	1575	878	xxxx	xxxx	xxxxx
Potent Cap.:	777	xxxx	xxxxx	xxxx	xxxx	xxxxx	198	111	350	xxxx	xxxx	xxxxx
Move Cap.:	777	xxxx	xxxxx	xxxx	xxxx	xxxxx	198	111	350	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.00	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	253	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	9.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	19.4	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxxx			xxxxxxx			19.4			xxxxxxx		
ApproachLOS:	*			*			C			*		

\*\*\*\*\*  
 Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*

Lake Elsinore Tractor Supply
Existing (2013) Conditions
PM Peak Hour

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #1 Collier Av. (SR74) (NS) / Enterprise Dr. (EW)
\*\*\*\*\*

Average Delay (sec/veh): 0.1 Worst Case Level of Service: C[ 19.1]
\*\*\*\*\*

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume and growth factors across four directions.

Critical Gap Module: Table with 12 columns for critical gap and follow-up time.

Capacity Module: Table with 12 columns for conflict volume, potential capacity, and volume/capacity.

Level of Service Module: Table with 12 columns for delay, LOS, and approach delay/LOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

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 Lake Elsinore Tractor Supply Store Traffic Impact Analysis (#0092-0002)  
 Existing + Ambient + Project + Cumulative (2014) Conditions  
 AM Peak Hour  
 -----

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #1 Collier Av. (SR74) (NS) / Enterprise Dr. (EW)  
 \*\*\*\*\*

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[ 18.2]  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	2	0	0	1	0	0	1	0	0	0

Volume Module:

Base Vol:	3	641	0	0	813	3	1	0	1	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	3	654	0	0	829	3	1	0	1	0	0	0
Added Vol:	13	0	0	0	0	1	2	0	10	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	654	0	0	829	4	3	0	11	0	0	0
User 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
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	17	705	0	0	894	4	3	0	12	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	17	705	0	0	894	4	3	0	12	0	0	0

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxxx	6.4	6.5	6.2	xxxxxx	xxxx	xxxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxxx	3.5	4.0	3.3	xxxxxx	xxxx	xxxxxx

Capacity Module:

Cnflct Vol:	898	xxxx	xxxxx	xxxx	xxxx	xxxxxx	1280	1633	894	xxxx	xxxx	xxxxxx
Potent Cap.:	765	xxxx	xxxxx	xxxx	xxxx	xxxxxx	185	102	343	xxxx	xxxx	xxxxxx
Move Cap.:	765	xxxx	xxxxx	xxxx	xxxx	xxxxxx	181	100	343	xxxx	xxxx	xxxxxx
Volume/Cap:	0.02	xxxx	xxxxx	xxxx	xxxx	xxxxxx	0.02	0.00	0.03	xxxx	xxxx	xxxxxx

Level Of Service Module:

2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx			
Control Del:	9.8	xxxx	xxxxx	xxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx			
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxxx	xxxx	288	xxxxxx	xxxx	xxxx	xxxxxx			
SharedQueue:	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	0.2	xxxxxx	xxxxxx	xxxx	xxxxxx			
Shrd ConDel:	xxxxxx	xxxx	xxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	18.2	xxxxxx	xxxxxx	xxxx	xxxxxx			
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*			
ApproachDel:	xxxxxxx			xxxxxxx			18.2			xxxxxxx					
ApproachLOS:	*			*			C			*					

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 Note: Queue reported is the number of cars per lane.  
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 Lake Elsinore Tractor Supply Store Traffic Impact Analysis (#0092-0002)  
 Existing + Ambient + Project + Cumulative (2014) Conditions  
 PM Peak Hour  
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Level of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #1 Collier Av. (SR74) (NS) / Enterprise Dr. (EW)

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Average Delay (sec/veh): 0.3 Worst Case Level Of Service: D[ 25.0]

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	2	0	0	1	0	0	1	0	0	0

Volume Module:

Base Vol:	5	1186	0	0	1073	0	0	0	6	0	0	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	5	1210	0	0	1094	0	0	0	6	0	0	0
Added Vol:	10	0	0	0	0	1	3	0	11	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	1210	0	0	1094	1	3	0	17	0	0	0
User 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
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	15	1238	0	0	1120	1	3	0	18	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	1238	0	0	1120	1	3	0	18	0	0	0

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxxx	6.4	6.5	6.2	xxxxxx	xxxx	xxxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxxx	3.5	4.0	3.3	xxxxxx	xxxx	xxxxxx

Capacity Module:

Cnflct Vol:	1121	xxxx	xxxxx	xxxx	xxxx	xxxxxx	1770	2389	1120	xxxx	xxxx	xxxxxx
Potent Cap.:	630	xxxx	xxxxx	xxxx	xxxx	xxxxxx	93	34	254	xxxx	xxxx	xxxxxx
Move Cap.:	630	xxxx	xxxxx	xxxx	xxxx	xxxxxx	91	34	254	xxxx	xxxx	xxxxxx
Volume/Cap:	0.02	xxxx	xxxxx	xxxx	xxxx	xxxxxx	0.03	0.00	0.07	xxxx	xxxx	xxxxxx

Level of Service Module:

2Way95thQ:	0.1	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx			
Control Del:	10.9	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx			
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	200	xxxxxx	xxxx	xxxx	xxxxxx			
SharedQueue:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	0.3	xxxxxx	xxxxxx	xxxx	xxxxxx			
Shrd ConDel:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	25.0	xxxxxx	xxxxxx	xxxx	xxxxxx			
Shared LOS:	*	*	*	*	*	*	*	D	*	*	*	*			
ApproachDel:	xxxxxxx			xxxxxxx			25.0			xxxxxxx					
ApproachLOS:	*			*			D			*					

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Note: Queue reported is the number of cars per lane.

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