

LSC TRANSPORTATION CONSULTANTS, INC.  
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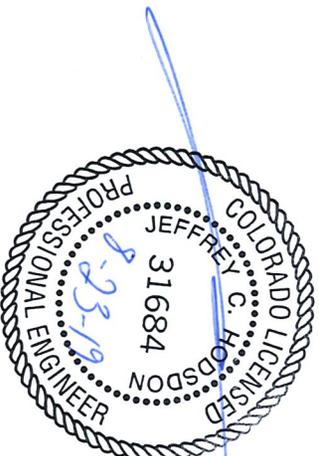
## Rocky Top Resources Transportation Memorandum

(LSC #194630)  
August 23, 2019

Add PCD File No. PPR1913

### Traffic Engineer's Statement

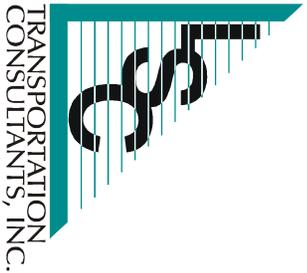
This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



### Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

\_\_\_\_\_  
Date



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Website: <http://www.lscstrans.com>

August 12, 2019

Mr. David Hostetler  
Land Development Consultants, Inc.  
3898 Maizeland Road  
Colorado Springs, CO 80909

RE: Rocky Top Resources  
El Paso County, CO  
Transportation Memorandum  
LSC #194630

Dear Mr. Hostetler,

LSC Transportation Consultants, Inc. has prepared this transportation memorandum for the Rocky Top Resources site redevelopment located southwest of Las Vegas Street and the US 24 overpass in El Paso County, Colorado. This has been prepared for submittal to El Paso County.

#### REPORT CONTENTS

The preparation of this report included the following:

- An inventory of existing road and traffic conditions on Las Vegas Street adjacent to the site, including surface conditions, functional classification, road widths, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, and any auxiliary turn lanes;
- Weekday morning and evening peak hour and Saturday peak hour turning movement traffic counts at the intersection of site access with Las Vegas Street;
- Intersection level of service analysis;
- A review of the site land use and access location;
- Auxiliary right-/left-turn lane needs analysis based on the projected volumes and criteria in the El Paso County *Engineering Criteria Manual*;
- Findings and recommendations.

#### LAND USE/SITE ACCESS

The 44.8-acre property (zoned I-3) is located at 1755 East Las Vegas Street in El Paso County, Colorado. The site is proposed to be redeveloped, as shown in Figure 2, but the current land use will not change. There is currently a single access point onto Las Vegas Street, located just south of the US 24 overpass. The site access is a stop-controlled, T-intersection.

**EXISTING ADJACENT STREETS**

Figure 1 shows the streets in the vicinity of the site. Streets adjacent to the site are identified below, followed by a brief description of each:

**Las Vegas Street** runs northwest to southeast adjacent to the site and is classified as a two-lane minor arterial. The posted speed limit along this corridor is 40 miles per hour (mph) in the southbound (eastbound) direction and 50 mph in the northbound (westbound) direction adjacent to the site. No auxiliary turn lanes currently exist at the site access on Las Vegas Street.

**EXISTING TRAFFIC**

Existing turning movement counts were collected in July 2019 at the site access with Las Vegas Street. Weekday AM and PM peak hour counts were collected in addition to Saturday peak hour counts, as shown in Figure 3. The weekday counts coincide with peak traffic on Las Vegas Street, while the Saturday count coincides with the peak traffic generated by the site.

The site is not anticipated to undergo any changes in land usage or the number of employees as a result of the redevelopment. Therefore, there is not anticipated to be any change in the site generated traffic.

**LEVEL OF SERVICE ANALYSIS**

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 1 shows the level of service delay ranges for signalized and unsignalized intersections.

**Table 1: Intersection Levels of Service Delay Ranges**

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (Seconds per Vehicle)	Average Control Delay (Seconds per Vehicle) <sup>1</sup>
A	≤ 10.0	≤ 10.0
B	10.1 - 20.0	10.1 - 15.0
C	20.1 - 35.0	15.1 - 25.0
D	35.1 - 55.0	25.1 - 35.0
E	55.1 - 80.0	35.1 - 50.0
F	≥ 80.1	≥ 50.1

<sup>1</sup> For unsignalized intersections, if v/c is > 1.00, then LOS is LOS F, regardless of the projected average control delay per vehicle

Levels of service for the current traffic conditions during the weekday morning and afternoon peak hours, as well as the Saturday peak hour, are shown in Figure 3. Detailed Synchro reports

are attached. As shown, the outbound movement from the site currently operates at LOS B during all peak hours.

### **LAS VEGAS STREET IMPROVEMENTS**

It appears that this is a project by the City of Colorado Springs. Please state that in the narrative. Will the City be performing the improvements to the site access?

There is a planned T-intersection with Las Vegas Street for the new Spring Creek roadway to be located approximately 100 feet west of the site access. As part of the new intersection construction, there are planned improvements to Las Vegas Street adjacent to the site and to the site access. The site access is planned to be widened to have separate left- and right-turn lanes. Las Vegas Street will have a 40-mph speed limit with the new design. Roadway plans are attached.

The current outbound laneage has a shared left/right-turn lane. As mentioned previously, the current laneage operates at LOS B for this movement. Figure 3 provides the resulting levels of service with the separate turning movements. As shown, the outbound left-turn will operate at LOS B during all peak hours. While the outbound right-turning movement will operate at LOS B or better during all peak hours.

### **AUXILIARY TURN LANE NEEDS EVALUATION**

Las Vegas Street is classified by El Paso County as a two-lane minor arterial adjacent to the site. All auxiliary turn lane design criteria below refer to Section 2.3.7 from the El Paso County *Engineering Criteria Manual (ECM)*.

#### **Auxiliary Right-Turn Deceleration Lane**

A right-turn deceleration lane is **not** required at site access point, as the current peak-hour eastbound right-ingress turning volume is less than the 50 vehicles per hour (vph) threshold.

Which is the planned speed limit, 40 or 45 mph? Revise accordingly.

#### **Auxiliary Left-Turn Deceleration Lane**

An exclusive left-turn deceleration lane shall be provided for access on minor arterial roadways with a peak-hour ingress left-turning volume greater than 25 vph. Based on counts recorded, the current peak-hour volumes for the westbound left-turn turning movements at the site access points exceeds 25 vph during the Saturday peak hour. Therefore, a left-turn deceleration lane will be required.

Based on the ECM and the planned 45 mph design speed, the left turn lane would require 50 feet of storage, 195 feet for deceleration, and a 180-foot taper. The roadway plans have a painted median located east of the intersection, therefore much of the turn lane can be accommodated by simply restriping. However, there is a bridge located approximately 600 feet east of the intersection, which limits the turn lane length and potential lane redirects.

To limit impacts to the bridge or the roadway immediately adjacent to the bridge a design deviation is requested. It is recommended that a 90-foot bay taper be constructed within the

Submit a deviation request form. please use the latest form.

required deceleration length. This would result in the lane being striped with 50 feet of storage, 105 feet of deceleration, and a 90-foot bay taper, as shown in Figure 4.

The proposed design deviation is not expected to negatively impact safety on the corridor due to the low number of turning vehicles at this intersection. It should be noted that the site is very seasonal and only exceeds the turn lane threshold on Saturdays during peak months (between April and September). Additionally, because the volume of turning vehicles only exceeds the turn lane threshold on Saturdays, the through volume on Las Vegas Street is lower and the 95<sup>th</sup> percentile queue for the turning movement is less than one vehicle.

## CONCLUSIONS AND RECOMMENDATIONS

- During the Saturday peak hour, approximately 84 vehicles enter the site and 90 vehicles exit the site.
- The site access will be reconstructed with the construction of the Spring Creek intersection to the west of the site. The access is planned to have separate left and right turn lanes.
- The site access requires a westbound left-turn lane based on criteria in the El Paso County *Engineering Criteria Manual*. It is recommended that a 50-foot storage lane with 105 feet of deceleration length and a 90-foot taper be constructed for the required turn lane. A design deviation will be filed, as this does not meet the County's turn lane requirements due to a bridge located west of the access.

\* \* \* \* \*

Please contact me if you have any questions.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.  
Principal

CRG:jias

Enclosure: Figures 1-3  
Spring Creek roadway plans

Please state who will be responsible for constructing this improvement.

- Clearly state in the text what the ADT is for the site access and along Las Vegas St.
- State whether the MTCF or other approved corridor study calls for the construction of improvements in the area.
- State what the sight distance is for the access and whether it can be met. If it cannot be met, state the required modifications so that it can be met.
- List any other traffic studies in the area within the past 5 years and state whether the current study is consistent with those studies. If there is none than please state it.



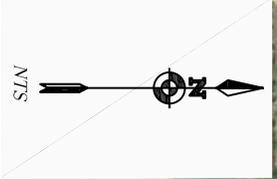
SITE

Las Vegas St

Janitell Rd

24

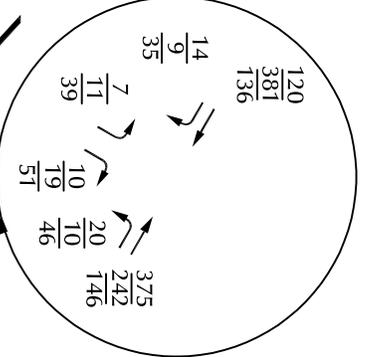
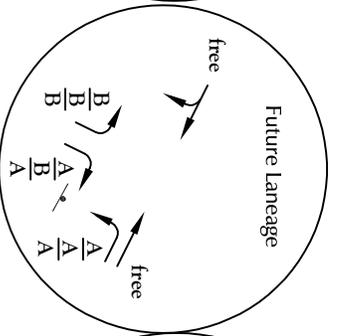
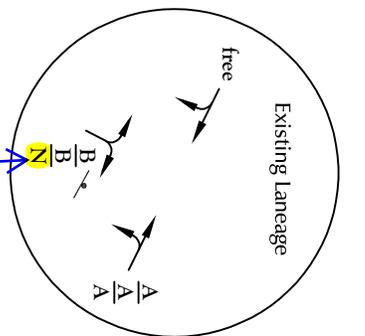
25



# Vicinity Map

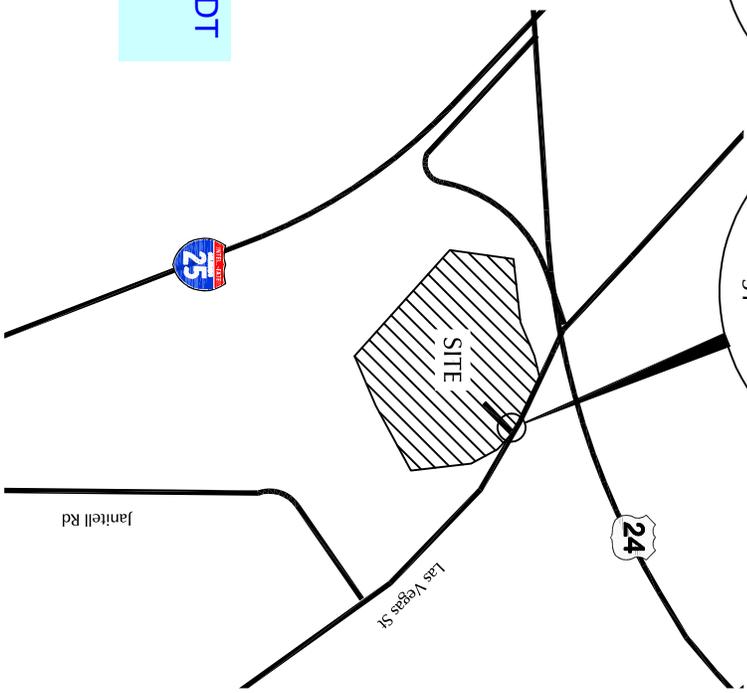
Figure 1

Rocky Top (LSC #194630)



it appears that this may be a typo. Please revise.

Provide ADT



- LEGEND:
- | = Stop Sign
  - XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
  - XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
  - XX = Saturday Peak-Hour Traffic (vehicles per hour)
  - $\frac{A}{B}$  = AM Individual Movement Peak-Hour Level of Service
  - $\frac{B}{C}$  = PM Individual Movement Peak-Hour Level of Service
  - $\frac{A}{C}$  = Saturday Individual Movement Peak-Hour Level of Service

# Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Figure 2

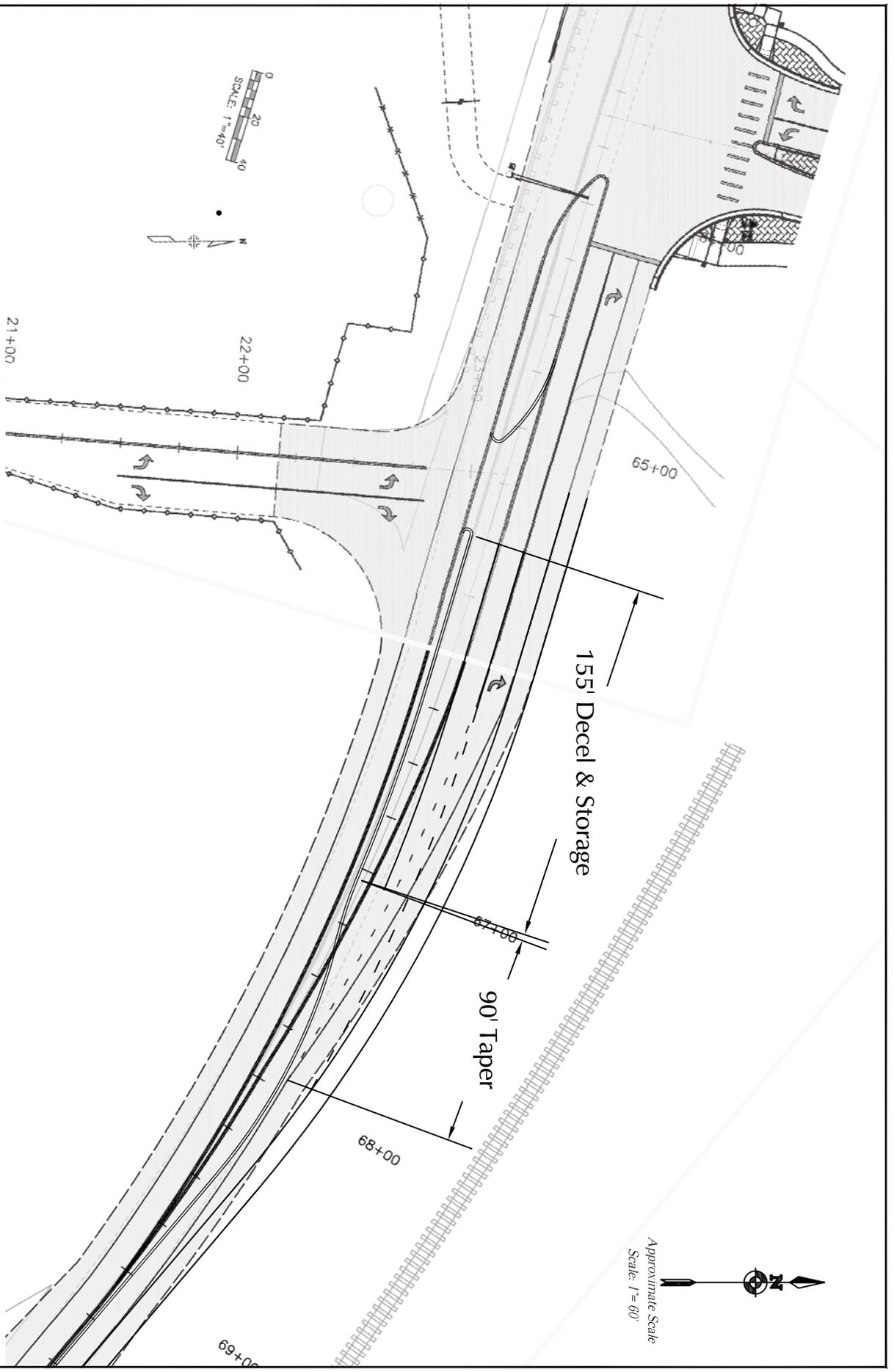


Figure 1  
Turn Lane Conceptual Design Request

(LSC# 194630)



# LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210  
 Colorado Springs, CO 80905  
 719-633-2868

File Name : E Las Vegas St - Rocky Top Resources Access AM  
 Site Code : 00000000  
 Start Date : 7/9/2019  
 Page No : 1

## Groups Printed- Unshifted

	E Las Vegas St Southbound					Westbound					E Las Vegas St Northbound					Rocky Top Resources Access Eastbound							
	Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Int. Total	
06:30 AM	0	22	2	0	0	24	0	0	0	0	0	0	51	0	0	51	0	0	1	0	0	1	76
06:45 AM	0	29	1	0	0	30	0	0	0	0	0	3	76	0	0	79	0	0	0	0	0	0	109
Total	0	51	3	0	0	54	0	0	0	0	0	3	127	0	0	130	0	0	1	0	0	1	185
07:00 AM	0	23	1	0	0	24	0	0	0	0	0	6	77	0	0	83	1	0	0	0	0	1	108
07:15 AM	0	24	6	0	0	30	0	0	0	0	0	2	104	0	0	106	2	0	4	0	0	6	142
07:30 AM	0	36	4	0	0	40	0	0	0	0	0	7	112	0	0	119	0	0	0	0	0	0	159
07:45 AM	0	37	3	0	0	40	0	0	0	0	0	5	82	0	0	87	4	0	6	0	0	10	137
Total	0	120	14	0	0	134	0	0	0	0	0	20	375	0	0	395	7	0	10	0	0	17	546
08:00 AM	0	30	5	0	0	35	0	0	0	0	0	1	58	0	0	59	1	0	8	0	0	9	103
08:15 AM	0	31	1	0	0	32	0	0	0	0	0	5	56	0	0	61	5	0	4	0	0	9	102
Grand Total	0	232	23	0	0	255	0	0	0	0	0	29	616	0	0	645	13	0	23	0	0	36	936
Approch %	0	91	9	0	0		0	0	0	0	0	4.5	95.5	0	0		36.1	0	63.9	0	0		
Total %	0	24.8	2.5	0	0	27.2	0	0	0	0	0	3.1	65.8	0	0	68.9	1.4	0	2.5	0	0	3.8	

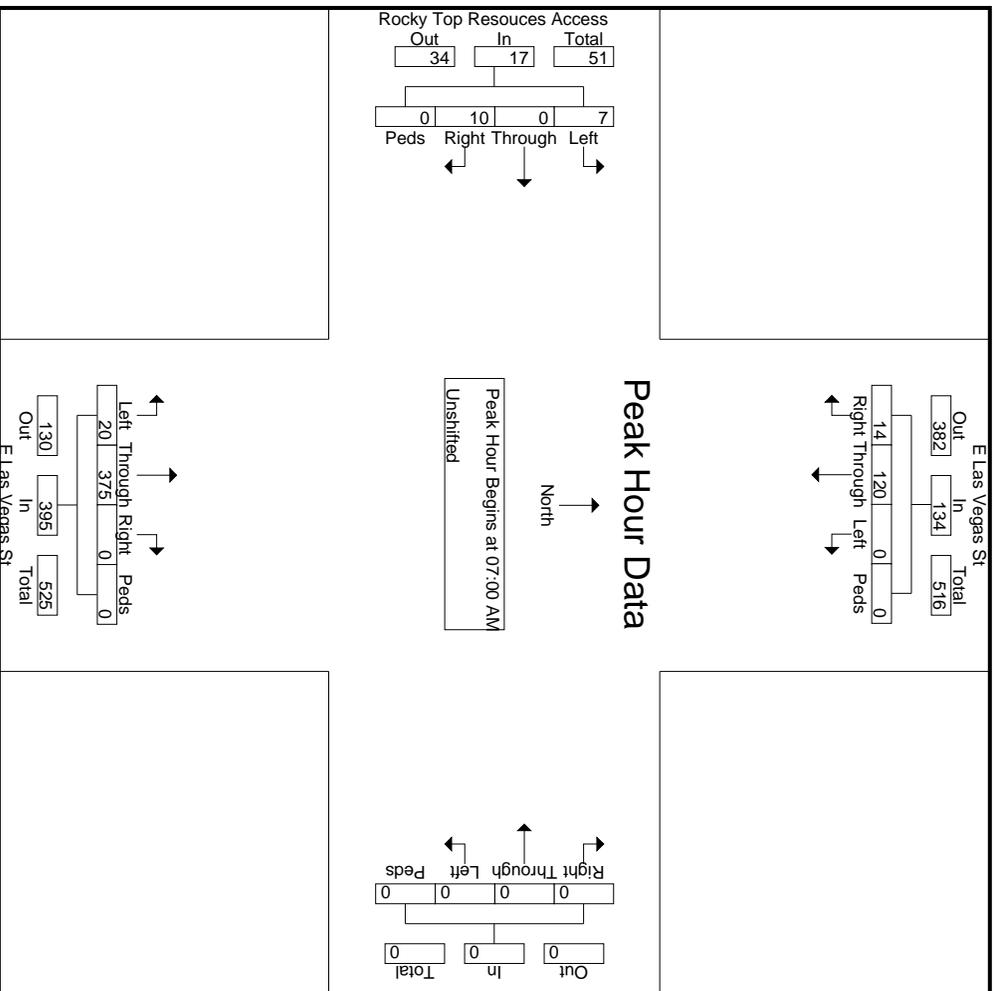


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File Name : E Las Vegas St - Rocky Top Resources Access AM  
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 Start Date : 7/9/2019  
 Page No : 2

Start Time	E Las Vegas St Southbound				Westbound				E Las Vegas St Northbound				Rocky Top Resources Access Eastbound						
	Left	Through	Right	Peds	Left	Through	Right	Peds	Left	Through	Right	Peds	Left	Through	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:00 AM																			
07:00 AM	0	23	1	0	24	0	0	0	6	77	0	0	83	1	0	0	0	1	108
07:15 AM	0	24	6	0	30	0	0	0	2	104	0	0	106	2	0	4	0	6	142
07:30 AM	0	36	4	0	40	0	0	0	7	112	0	0	119	0	0	0	0	0	159
07:45 AM	0	37	3	0	40	0	0	0	5	82	0	0	87	4	0	6	0	10	137
Total Volume	0	120	14	0	134	0	0	0	20	375	0	0	395	7	0	10	0	17	546
% App. Total	0	89.6	10.4	0	0	0	0	0	5.1	94.9	0	0	0	41.2	0	58.8	0	0	142
PHF	.000	.811	.583	.000	.838	.000	.000	.000	.000	.714	.837	.000	.830	.438	.000	.417	.000	.425	.858





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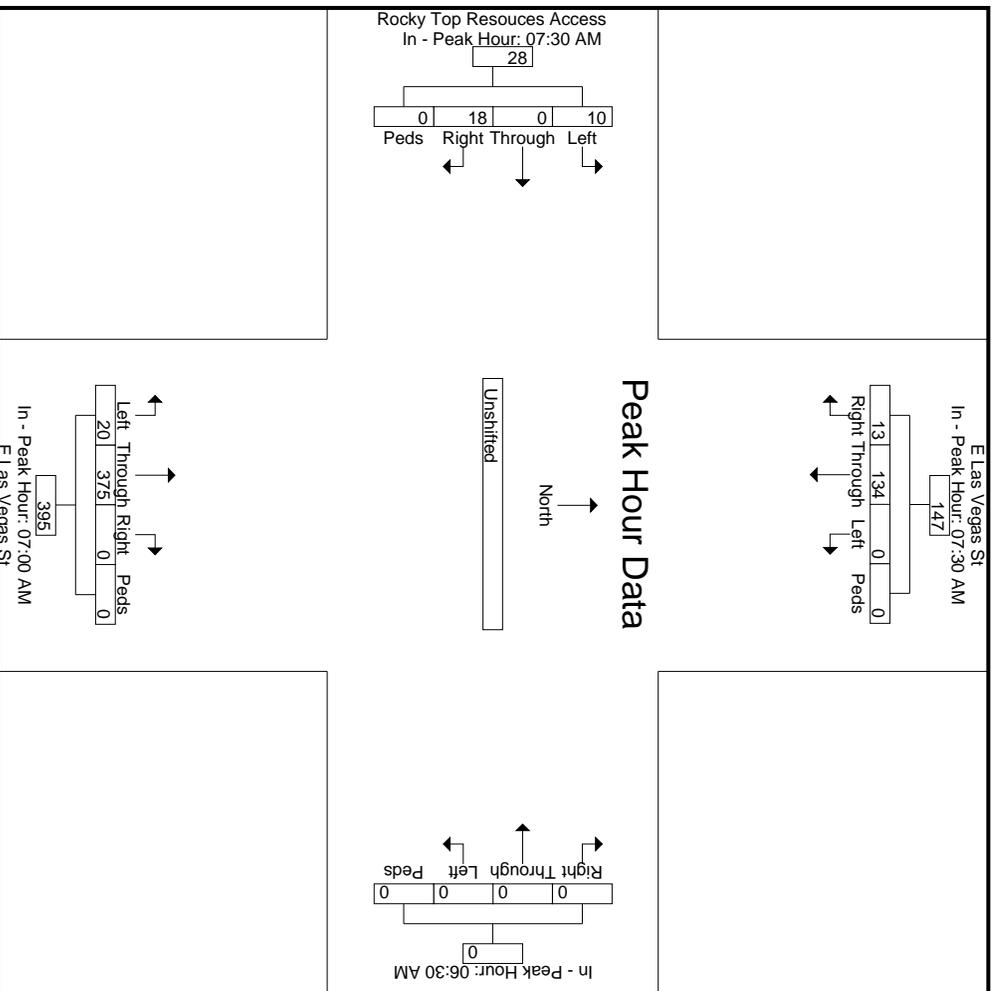
File Name : E Las Vegas St - Rocky Top Resources Access AM  
 Site Code : 00000000  
 Start Date : 7/9/2019  
 Page No : 3

Start Time	E Las Vegas St Southbound			Westbound			E Las Vegas St Northbound			Rocky Top Resources Access Eastbound					
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total

Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM			06:30 AM			07:00 AM			07:30 AM						
+0 mins.	0	36	4	0	0	0	0	6	77	0	0	83	0	0	0	0
+15 mins.	0	37	3	0	0	0	0	2	104	0	0	106	4	0	6	10
+30 mins.	0	30	5	0	0	0	0	7	112	0	0	119	1	0	8	9
+45 mins.	0	31	1	0	0	0	0	5	82	0	0	87	5	0	4	9
Total Volume	0	134	13	0	0	0	0	20	375	0	0	395	10	0	18	28
% App. Total	0	91.2	8.8	0	0	0	0	5.1	94.9	0	0	0	35.7	0	64.3	0
PHF	.000	.905	.650	.000	.000	.000	.000	.714	.837	.000	.000	.830	.500	.000	.563	.700





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File Name : E Las Vegas St - Rocky Top Resources Access PM  
 Site Code : 00000000  
 Start Date : 7/9/2019  
 Page No : 1

## Groups Printed- Unshifted

	E Las Vegas St Southbound					Westbound					E Las Vegas St Northbound					Rocky Top Resources Access Eastbound					Int. Total	
	Start Time	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds		App. Total
04:00 PM	0	72	0	0	0	72	0	0	0	0	0	2	48	0	0	50	0	0	2	0	2	124
04:15 PM	0	84	3	0	0	87	0	0	0	0	0	8	53	0	0	61	3	0	2	0	5	153
04:30 PM	0	90	6	0	0	96	0	0	0	0	0	6	54	0	0	60	3	0	4	0	7	163
04:45 PM	0	89	2	0	0	91	0	0	0	0	0	4	57	0	0	61	4	0	5	0	9	161
Total	0	335	11	0	0	346	0	0	0	0	0	20	212	0	0	232	10	0	13	0	23	601
05:00 PM	0	98	1	0	0	99	0	0	0	0	0	0	60	0	0	60	2	0	9	0	11	170
05:15 PM	0	104	0	0	0	104	0	0	0	0	0	0	71	0	0	71	2	0	1	0	3	178
05:30 PM	0	82	1	0	0	83	0	0	0	0	0	0	61	0	0	61	3	0	4	0	7	151
05:45 PM	0	78	0	0	0	78	0	0	0	0	0	0	60	0	0	60	1	0	0	0	1	139
Total	0	362	2	0	0	364	0	0	0	0	0	0	252	0	0	252	8	0	14	0	22	638
Grand Total	0	697	13	0	0	710	0	0	0	0	0	20	464	0	0	484	18	0	27	0	45	1239
Approch %	0	98.2	1.8	0	0	57.3	0	0	0	0	0	4.1	95.9	0	0	39.1	40	0	60	0	3.6	
Total %	0	56.3	1	0	0	57.3	0	0	0	0	0	1.6	37.4	0	0	39.1	1.5	0	2.2	0	3.6	





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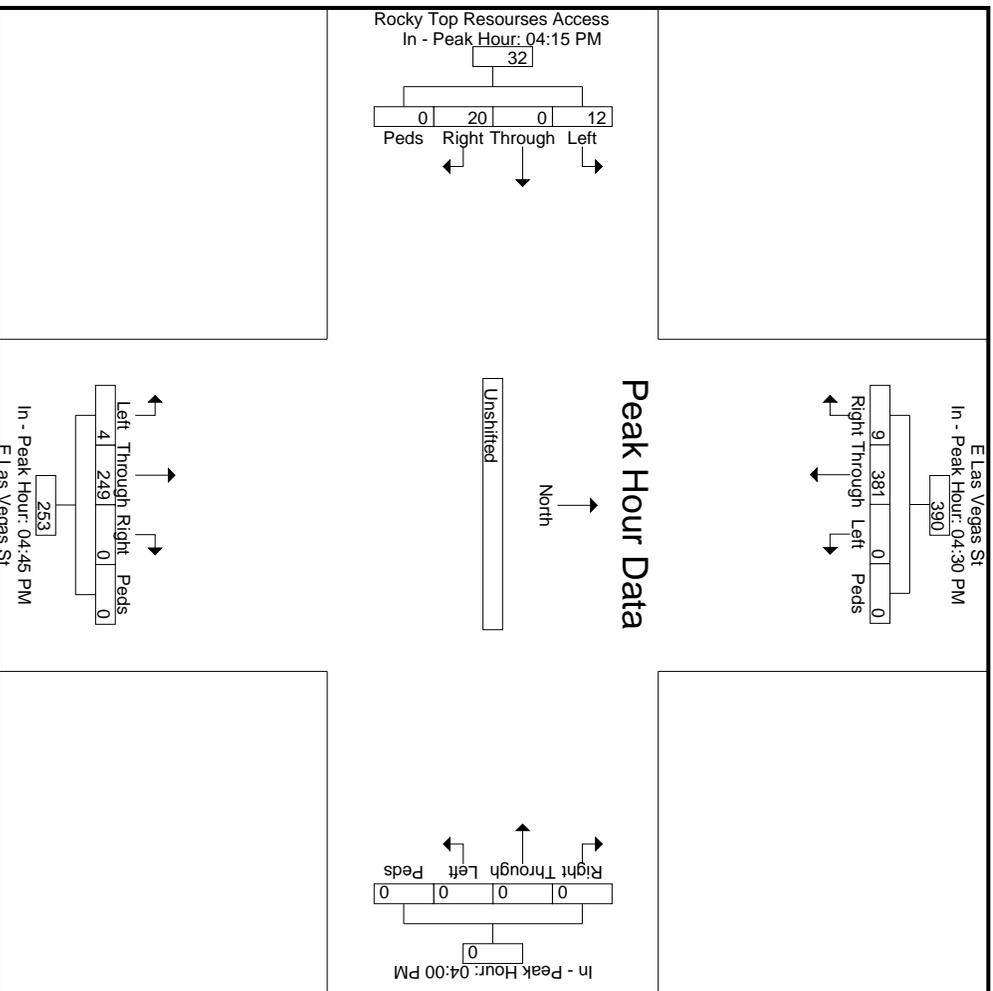
File Name : E Las Vegas St - Rocky Top Resources Access PM  
 Site Code : 00000000  
 Start Date : 7/9/2019  
 Page No : 3

Start Time	E Las Vegas St Southbound			Westbound			E Las Vegas St Northbound			Rocky Top Resources Access Eastbound					
	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total	Left	Through	Right	Peds	App. Total

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			04:00 PM			04:45 PM			04:15 PM						
+0 mins.	0	90	6	0	0	0	0	0	4	57	0	0	2	0	5	
+15 mins.	0	89	2	0	91	0	0	0	0	60	0	0	4	0	7	
+30 mins.	0	98	1	0	99	0	0	0	0	71	0	0	5	0	9	
+45 mins.	0	104	0	0	104	0	0	0	0	61	0	0	9	0	11	
Total Volume	0	381	9	0	390	0	0	0	0	4	249	0	0	253	12	
% App. Total	0	97.7	2.3	0	0	0	0	0	1.6	98.4	0	0	0	37.5	0	
PHF	.000	.916	.375	.000	.938	.000	.000	.000	.250	.877	.000	.000	.891	.750	.556	.727



# HCM 6th TWSC

## 3: Access & Las Vegas

Existing  
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔			
Traffic Vol, veh/h	381	9	10	242	11	19
Future Vol, veh/h	381	9	10	242	11	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	405	10	11	272	11	19

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	415	0 704 410
Stage 1	-	-	- 410 -
Stage 2	-	-	- 294 -
Critical Hdwy	-	4.12	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	-	2.218	- 3.518 3.318
Pot Cap-1 Maneuver	-	1144	- 403 642
Stage 1	-	-	- 670 -
Stage 2	-	-	- 756 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1144	- 399 642
Mov Cap-2 Maneuver	-	-	- 399 -
Stage 1	-	-	- 670 -
Stage 2	-	-	- 748 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	525	-	-	1144	-
HCM Lane V/C Ratio	0.057	-	-	0.01	-
HCM Control Delay (s)	12.3	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

# HCM 6th TWSC

## 3: Access & Las Vegas

Existing  
AM Peak Hour

Intersection							
Int Delay, s/veh	0.6						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	<b>1</b>			<b>4</b>	<b>W</b>	<b>W</b>	
Traffic Vol, veh/h	120	14	20	375	7	10	
Future Vol, veh/h	120	14	20	375	7	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	84	84	83	83	100	100	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	143	17	24	452	7	10	

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	160	0	652 152
Stage 1	-	-	-	152 -
Stage 2	-	-	-	500 -
Critical Hdwy	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	5.42 -
Follow-up Hdwy	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	1419	-	433 894
Stage 1	-	-	-	876 -
Stage 2	-	-	-	609 -
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	1419	-	423 894
Mov Cap-2 Maneuver	-	-	-	423 -
Stage 1	-	-	-	876 -
Stage 2	-	-	-	595 -

Approach	EB	WB	NB	
HCM Control Delay, s	0	0.4	11	
HCM LOS			B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	613	-	-	1419	-
HCM Lane V/C Ratio	0.028	-	-	0.017	-
HCM Control Delay (s)	11	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

# HCM 6th TWSC

## 3: Access & Las Vegas

Existing  
Saturday Peak Hour

Intersection							
Int Delay, s/veh	2.9						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↔		↔		↔		
Traffic Vol, veh/h	136	38	46	146	39	51	
Future Vol, veh/h	136	38	46	146	39	51	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	100	100	84	84	98	98	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	136	38	55	174	40	52	

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	174	0	439 155
Stage 1	-	-	-	155 -
Stage 2	-	-	-	284 -
Critical Hdwy	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	5.42 -
Follow-up Hdwy	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	1403	-	575 891
Stage 1	-	-	-	873 -
Stage 2	-	-	-	764 -
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	1403	-	550 891
Mov Cap-2 Maneuver	-	-	-	550 -
Stage 1	-	-	-	873 -
Stage 2	-	-	-	731 -

Approach	EB	WB	NB	
HCM Control Delay, s	0	1.8	10.9	
HCM LOS			B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	702	-	-	1403	-
HCM Lane V/C Ratio	0.131	-	-	0.039	-
HCM Control Delay (s)	10.9	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

3: Access & Las Vegas

Intersection							
Int Delay, s/veh	0.6						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Vol, veh/h	120	14	20	375	7	10	
Future Vol, veh/h	120	14	20	375	7	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	0	-	0	0	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	84	84	83	83	100	100	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	143	17	24	452	7	10	

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	160	652
Stage 1	-	-	152
Stage 2	-	-	500
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1419	433
Stage 1	-	-	876
Stage 2	-	-	609
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1419	426
Mov Cap-2 Maneuver	-	-	426
Stage 1	-	-	876
Stage 2	-	-	599

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	426	894	-	-	1419	-
HCM Lane V/C Ratio	0.016	0.011	-	-	0.017	-
HCM Control Delay (s)	13.6	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-

3: Access & Las Vegas

Intersection							
Int Delay, s/veh	0.6						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Vol, veh/h	381	9	10	242	11	19	
Future Vol, veh/h	381	9	10	242	11	19	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	0	-	0	0	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	89	89	100	100	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	405	10	11	272	11	19	

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	415	0 704 410
Stage 1	-	-	- 410 -
Stage 2	-	-	- 294 -
Critical Hdwy	-	4.12	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	-	2.218	- 3.518 3.318
Pot Cap-1 Maneuver	-	1144	- 403 642
Stage 1	-	-	- 670 -
Stage 2	-	-	- 756 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1144	- 399 642
Mov Cap-2 Maneuver	-	-	- 399 -
Stage 1	-	-	- 670 -
Stage 2	-	-	- 748 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12.1
HCM LOS		B	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	399	642	-	-	1144	-
HCM Lane V/C Ratio	0.028	0.03	-	-	0.01	-
HCM Control Delay (s)	14.3	10.8	-	-	8.2	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

3: Access & Las Vegas

Saturday Peak Hour

Intersection							
Int Delay, s/veh	2.8						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Vol, veh/h	136	38	46	146	39	51	
Future Vol, veh/h	136	38	46	146	39	51	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	0	-	0	0	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	100	100	84	84	98	98	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	136	38	55	174	40	52	

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	174	0	439
Stage 1	-	-	-	155
Stage 2	-	-	-	284
Critical Hdwy	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	1403	-	575
Stage 1	-	-	-	873
Stage 2	-	-	-	764
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	1403	-	553
Mov Cap-2 Maneuver	-	-	-	553
Stage 1	-	-	-	873
Stage 2	-	-	-	734

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	10.5
HCM LOS		B	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	553	891	-	-	1403	-
HCM Lane V/C Ratio	0.072	0.058	-	-	0.039	-
HCM Control Delay (s)	12	9.3	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

# ROCKY TOP RESOURCES

SITE DEVELOPMENT PLAN  
1755 E. LAS VEGAS STREET, COLORADO SPRINGS, EL PASO COUNTY, COLORADO



### OWNER/DEVELOPER:

ROCKY TOP RESOURCES, INC.  
ATTN: FREDRICK D. MARTIN  
1755 E. LAS VEGAS STREET  
COLORADO SPRINGS, CO 80903-4323  
(719) 579-9103

### PLANNING CONSULTANT:

LAND DEVELOPMENT CONSULTANTS, INC.  
LARRY ANDY AND HOSTETLER  
3000 W. WYOMING STREET  
COLORADO SPRINGS, CO 80909  
(719) 528-6133

### PROPERTY DESCRIPTION:

1755 E. LAS VEGAS STREET  
PARCEL 1: TRACTS 1 AND 2 IN VALLEY GARDENS AND ALL THAT PORTION OF WEST STREET VACATED BY RESOLUTION NO. 04-545 RECORDED DECEMBER 12, 2006 UNDER REGISTRATION NO. 20677979, BEING A PART OF THE EAST HALF OF THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 14 SOUTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF EL PASO, COLORADO, AND EXCEPT THAT PORTION CONVEYED TO THE COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO RECORDED JANUARY 10, 1984 IN BOOK 3823 AT PAGE 439, AND EXCEPT THAT PORTION CONVEYED TO THE DEPARTMENT OF TRANSPORTATION STATE OF COLORADO RECORDED MAY 5, 1992 IN BOOK 5973 AT PAGE 205.  
PARCEL 2: TRACTS 7, 8, 9 AND 12 IN VALLEY GARDENS, BEING A PART OF THE EAST HALF OF THE NORTHEAST QUARTER OF SECTION 29, AND THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 29, AND THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 28 IN TOWNSHIP 14 SOUTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO.  
EXCEPTING FROM THE ABOVE DESCRIPTION THAT PORTION THEREOF CONVEYED BY B.W. BARBOCK TO THE STATE OF COLORADO RECORDED IN BOOK 5341 AT PAGE 458, THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 29, TOWNSHIP 14 SOUTH, RANGE 66 WEST OF THE 6TH P.M., COUNTY OF EL PASO, COLORADO, AND FURTHER EXCEPTING THE RIGHT OF WAY CONVEYED TO THE CITY OF COLORADO SPRINGS BY DEED RECORDED IN BOOK 1000 AT PAGE 316 IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF EL PASO COUNTY, COLORADO, COUNTY OF EL PASO, STATE OF COLORADO.  
... AND ...  
TRACTS G AND H AND TRACTS E, I AND K, RYAN'S SUBDIVISION, COUNTY OF EL PASO, STATE OF COLORADO, EXCEPTING FROM ALL THE FOREGOING PARCELS THOSE PORTIONS CONTAINED IN THE FINDINGS, ORDER AND DECREE RECORDED IN BOOK 3823 AT PAGE 439, WARRANTY DEED TO THE DEPARTMENT OF TRANSPORTATION, STATE OF COLORADO RECORDED IN BOOK 5973 AT PAGE 205 AND WARRANTY DEED TO JAY A. RINKLER RECORDED IN BOOK 6354 AT PAGE 539, EL PASO COUNTY, COLORADO.  
NOW KNOWN AS TRACT 7 IN VALLEY GARDENS IN ACCORDANCE WITH ADMINISTRATIVE VACATION OF INTERIOR LOT LINES AS RECORDED JANUARY 17, 2006 AT RECEPTION NO. 206006560 ... CONTAINING 45 (GROSS) ACRES, MORE OR LESS.

### SITE DATA:

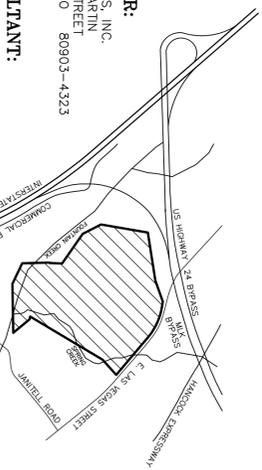
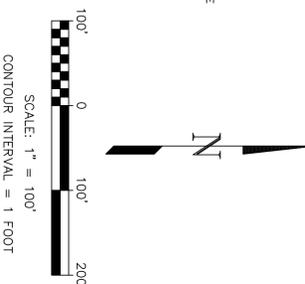
AREA: 44,809 AC  
EXISTING ZONE: I-3 "HEAVY INDUSTRIAL"  
PROPOSED USE: WOOD WASTE RECYCLING AND MULCH RETAIL  
PROPOSED BUILDING HEIGHT: EXTENDED SINGLE-STORY = 25'-30' (40' ALLOWED)  
BUILDING SETBACKS: 30' FRONT, SIDE AND REAR  
PARKING, REQUIRED:  
OFFICES/SHOPS/EMPLOYEE LUNCH ROOM (PERMANENT STRUCTURE) - 5,400 SQ. FT. @ 1/300 SQ. FT. = 18  
PARKING, PROVIDED: 38 (INCLUDES 2 HANDICAP)  
TAX SCHEDULE NO.: 64291-01-029, 030 AND 031

### NOTES:

- FEDERAL EMERGENCY MANAGEMENT AGENCY Flood Insurance Rate Map Number 08041C 0241F, effective date 1/7/1997 indicates that the site is in a flood plain, Zone AE (Special Flood Hazard Areas) of Zone X (grey) (areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood) and Zone AE (Special Flood Hazard Areas) inundated by 100-year flood with base elevations determined).
- BENCHMARK: FMS Monument Z-395 is a stainless steel rod inside an aluminum flange stamped "Z 395 1983" set by the NGS 335 feet Northwest of the center of Royer Street, 50 feet Northwest of the center of E. Las Vegas Street, 27 feet Southwest of the rear rail of the Denver and Rio Grande Western tracks, 3 feet Northwest of a utility pole with 1 guy wire, 1 foot Southeast of a witness post, 4 feet below the tracks. Elevation = 5314.77 (FMS datum) plus 3.465 foot adjustment to NAVD 88 datum per VERTICON adjustment = 5318.23.
- Lighting will consist of building-mounted wall-packs.
- The developer shall obtain a driveway access permit from El Paso County Development Services Department prior to obtaining a building permit.
- The site will utilize a mobile scale for vehicle load weighing.
- Multiple piles of raw material dump areas, debris stockpiles, post process mulch stockpiles and fine mulch stockpiles will exist in various locations across this site, with corresponding dirt/gravel accessways also existing in various locations across this site.

### LEGEND

- SANITARY SEWER MANHOLE
- FIRE HYDRANT
- TELEPHONE RISER
- TELEPHONE MANHOLE
- POWER POLE
- WATER VALVE
- FIBER OPTIC VAULT
- FENCE LINE
- SANITARY SEWER LINE
- OVERHEAD ELECTRIC LINE
- PHONE LINE
- WATER LINE



### VICINITY MAP

NO SCALE

CALL BEFORE YOU DIG ...



48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS FOR LOCATING AND MARKING GAS, ELECTRIC, WATER AND WASTEWATER

REVISIONS			
No.	Description	By	Date
1	DATA CLARIFICATION	SLG	12/12/18
2	CLIENT/CIVIL COMMENTS	SLG	01/11/19
3	BUILDING LOCATION	SLG	03/20/19
4	CLIENT COMMENTS	DVH	05/21/19

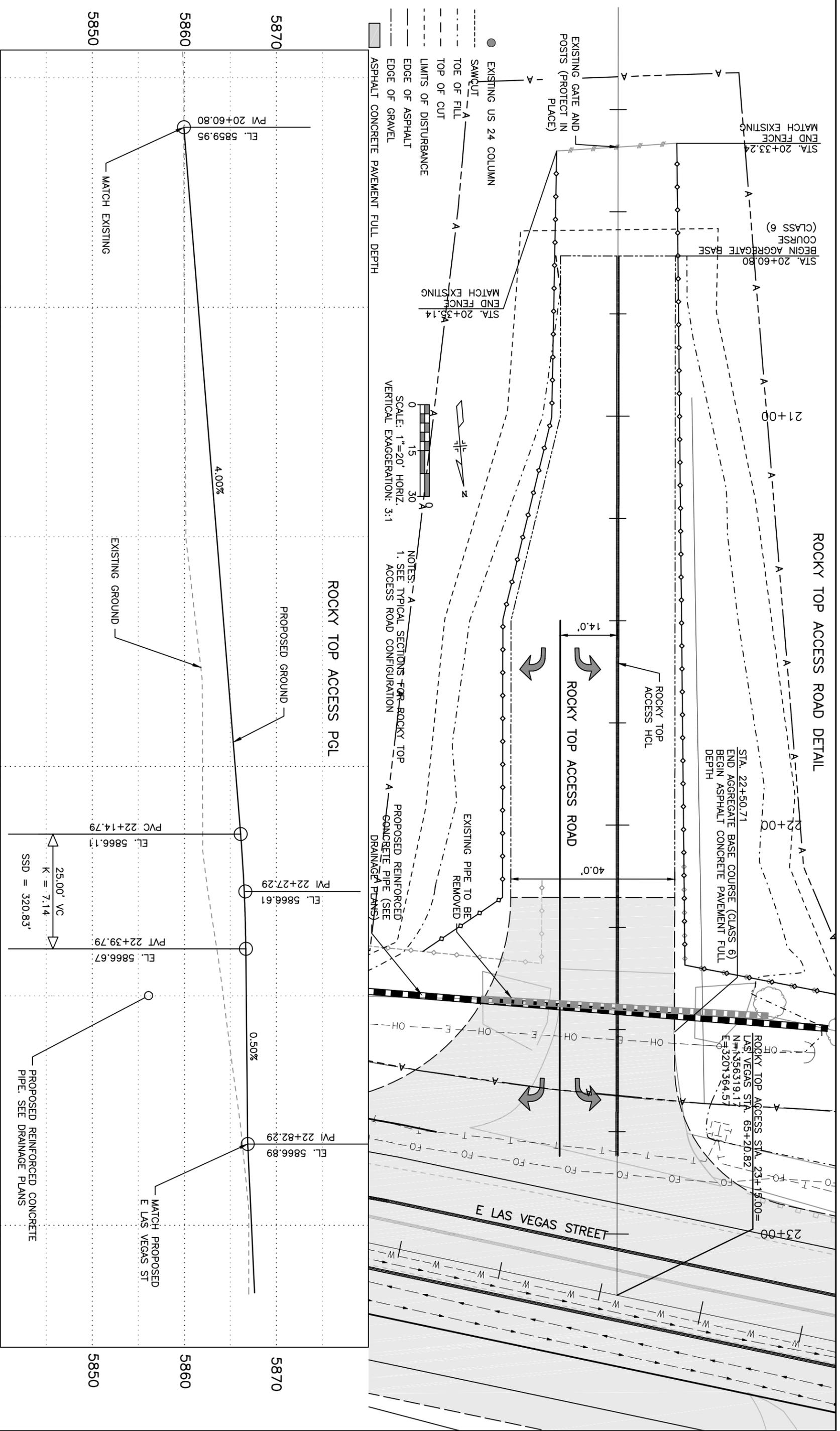
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V Scale: N/A  
Designed By: N/A  
Drawn By: SLG  
Checked By: DVH  
Date: 10/10/2018

**Land Development Consultants, Inc.**  
PLANNING · SURVEYING  
www ldc-inc.com · TEL: (719) 528-6133 · FAX: (719) 528-6848  
3898 MAIZELAND ROAD · COLORADO SPRINGS, CO 80909

**ROCKY TOP RESOURCES**  
**SITE DEVELOPMENT PLAN**  
PORTIONS OF THE EAST HALF OF THE NORTHEAST QUARTER OF SECTION 29 AND THE WEST HALF OF SECTION 28, TOWNSHIP 14 SOUTH, RANGE 66 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO

Project No.: **04048**  
Sheet: 1 of 1

ROCKY TOP ACCESS ROAD DETAIL



Computer File Information

Creation Date:	3/7/18	Initials:	BJH
Last Modification Date:	3/7/18	Initials:	BEN.HARMS
Full Path:	S:\10114-02\CAD\Sheets		
Drawing File Name:	R10114-02DET05.dwg		
Acad Version	2016	Scale:	1"=20' Units: English

Index of Revisions

No.	Description	By	Date

**CITY OF COLORADO SPRINGS**  
*My Greater Community*  
 PO Box 1575, Mail Code 410  
 20 S. Nevada, Suite 400  
 Colorado Springs, CO 80903  
 Phone: (719) 595-5918  
 Fax: (719) 385-5373

**FELSBERG HOLT & ULLEVIG**  
 3 S. Tejon St., Ste. 300  
 Colorado Springs, CO 80903  
 Phone: (719) 314-1800  
 Fax: (719) 314-1804

As Constructed

No. Revisions:	
Revised:	
Void:	

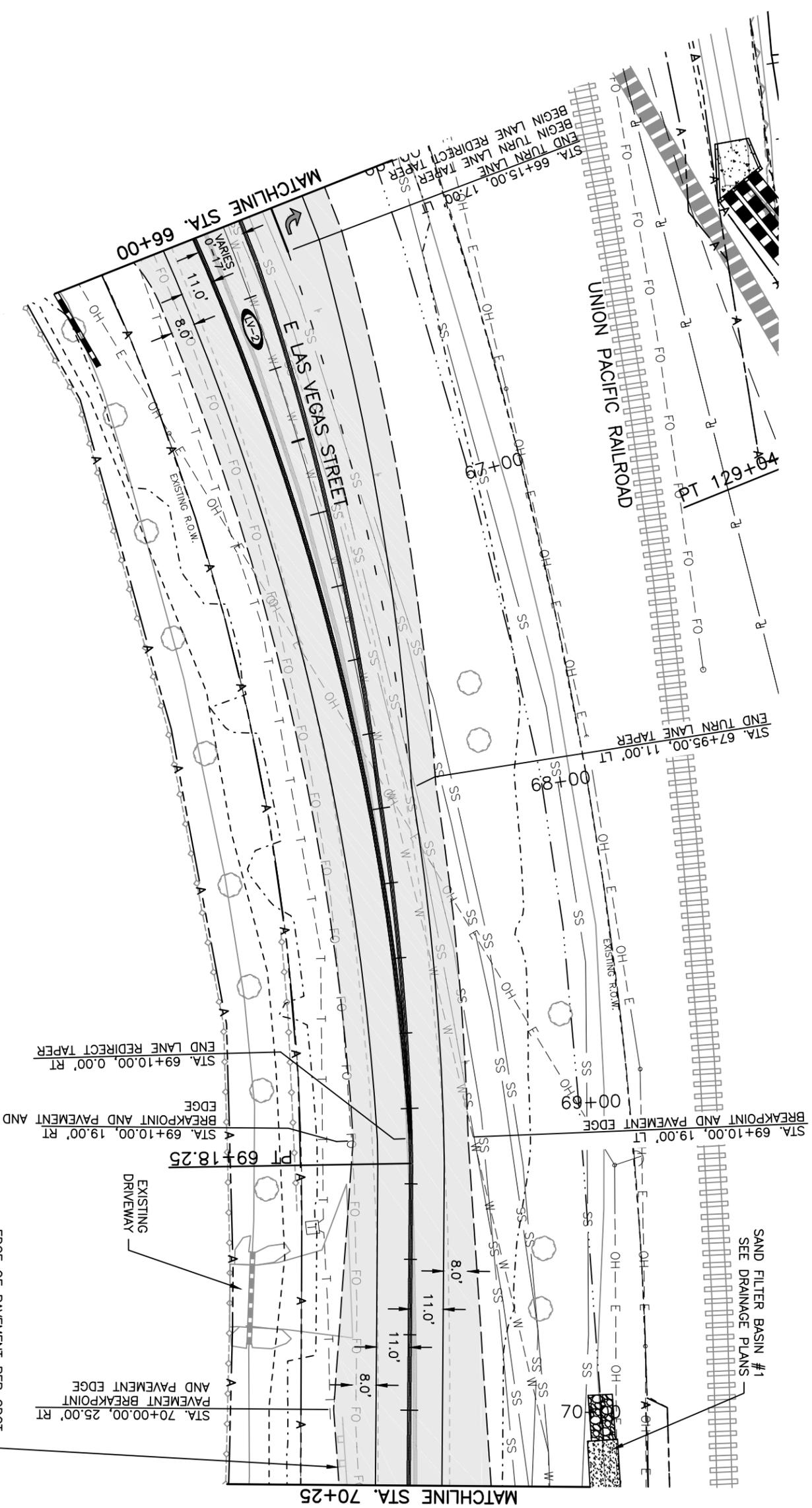
SPRING CREEK ROAD/ROYER STREET ROADWAY DETAILS

Designer:	BJH	Detailer:	PBB
Sheet Subset:	DETAILS	Subset Sheets:	DET 5 of 22

Project No./Code

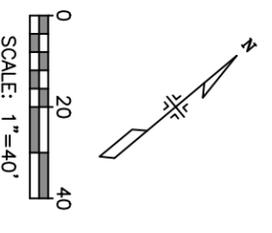
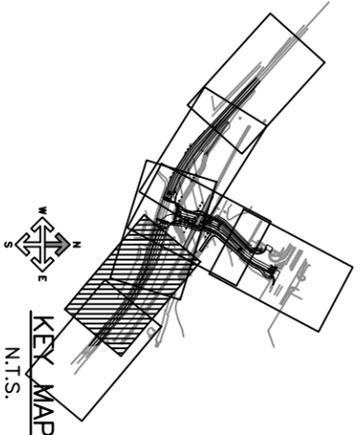
Project No./Code	10114-02
Sheet Number	





- LAS VEGAS HORIZONTAL CURVE NUMBER (SEE GEOMETRY PLANS)
- SPRING CREEK HORIZONTAL CURVE NUMBER (SEE GEOMETRY PLANS)
- EXISTING US 24 COLUMN
- SAWCUT
- ASPHALT CONCRETE PAVEMENT FULL DEPTH
- ASPHALT CONCRETE PAVEMENT OVERLAY
- TOE OF FILL
- TOP OF CUT
- LIMITS OF DISTURBANCE

- NOTES:**
- SEE ROADWAY DETAIL SHEETS FOR ADDITIONAL INFORMATION.
  - SEE DRAINAGE SHEETS FOR ADDITIONAL INFORMATION.
  - SEE LIGHTING PLANS FOR ADDITIONAL INFORMATION.



Computer File Information		Index of Revisions	
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Last Modification Date:	3/7/18	Initials:	BEN, HARM
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Drawing File Name:	R10114-02PLAN04.dwg		
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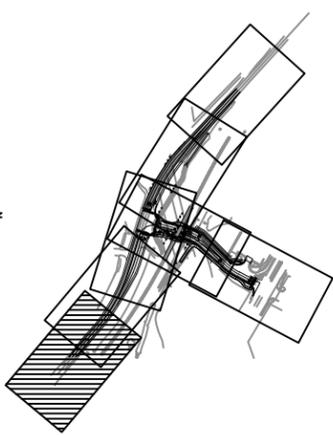
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No Revisions:		

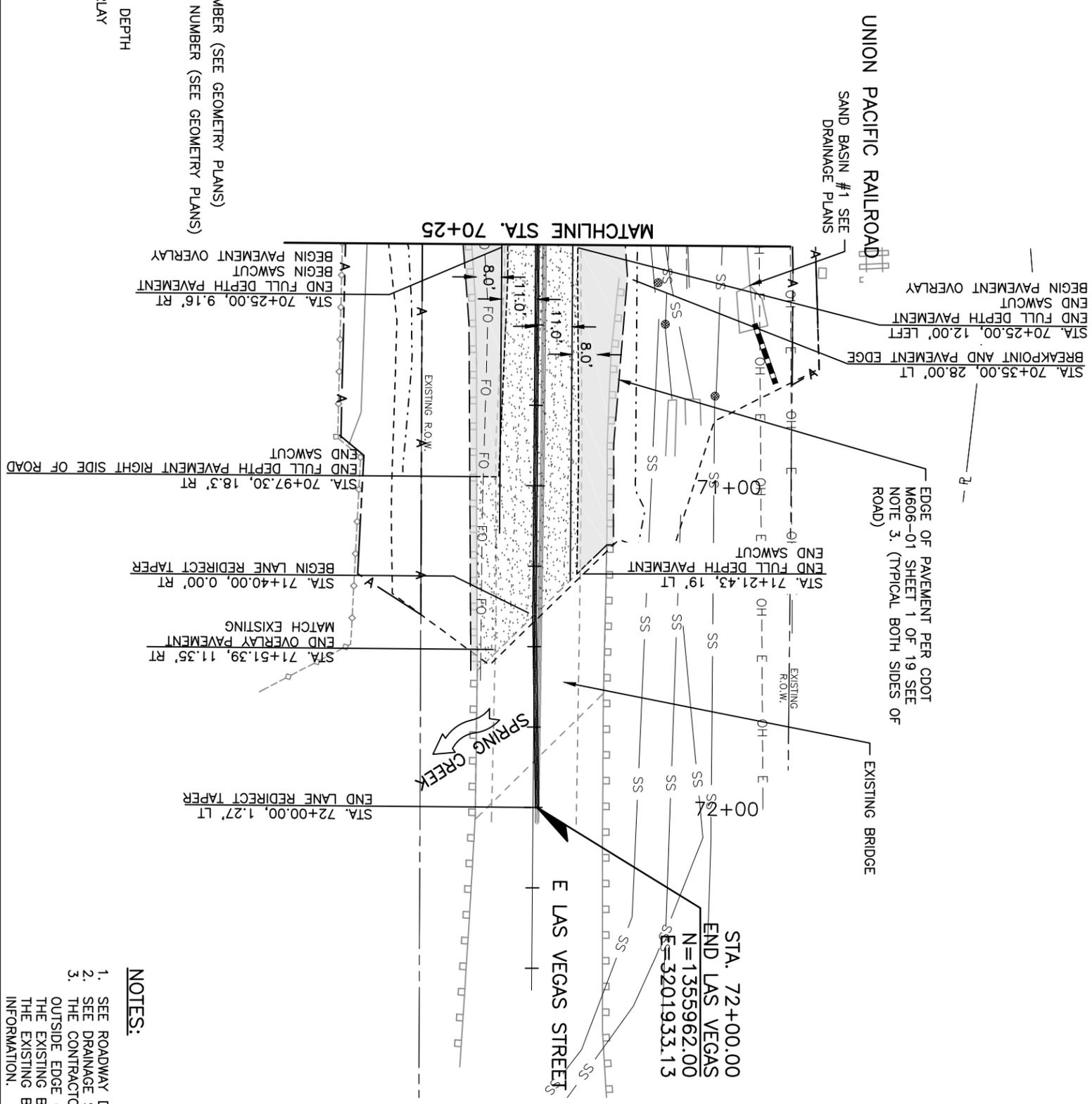
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E LAS VEGAS STREET		10114-02	
Designer:	BJH	Detailer:	BJH
Sheet Subset:	ROADWAY	Subset Sheets:	RP 4 of 10
		Sheet Number	

**CITY OF COLORADO SPRINGS**  
Create Community  
PO Box 1575, Mail Code 410  
305 S. Tejon St., Ste. 300  
Colorado Springs, CO 80903  
Phone: (719) 385-5918  
Fax: (719) 385-5537

**FELSBERG HOLT & ULLEVIG**  
3 S. Tejon St., Ste. 300  
Colorado Springs, CO 80903  
Phone: (719) 314-1800  
Fax: (719) 314-1804



**KEY MAP**  
N.T.S.



- LAS VEGAS HORIZONTAL CURVE NUMBER (SEE GEOMETRY PLANS)
- SPRING CREEK HORIZONTAL CURVE NUMBER (SEE GEOMETRY PLANS)
- EXISTING US 24 COLUMN
- SAWCUT
- ASPHALT CONCRETE PAVEMENT FULL DEPTH
- ASPHALT CONCRETE PAVEMENT OVERLAY
- TOE OF FILL
- TOP OF CUT
- LIMITS OF DISTURBANCE

**Computer File Information**

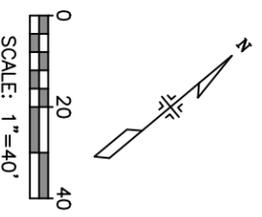
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Acad Version	2016	Scale:	1"=40'
		Units:	English

**Index of Revisions**


PO Box 1575, Mail Code 410  
305 S. Tejon St., Ste. 300  
Colorado Springs, CO 80903  
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Fax: (719) 385-5537

3 S. Tejon St., Ste. 300  
Colorado Springs, CO 80903  
Phone: (719) 314-1800  
Fax: (719) 314-1804

- NOTES:**
- SEE ROADWAY DETAIL SHEETS FOR ADDITIONAL INFORMATION.
  - SEE DRAINAGE SHEETS FOR ADDITIONAL INFORMATION.
  - THE CONTRACTOR SHALL PROVIDE FULL DEPTH ASPHALT TO THE OUTSIDE EDGE OF SHOULDER AND A MINIMUM 2" OF ASPHALT UNDER THE EXISTING BRIDGE APPROACH RAIL BETWEEN STA. 70+25.00 AND THE EXISTING BRIDGE. SEE TYPICAL SECTION SHEETS FOR ADDITIONAL INFORMATION.



As Constructed	SPRING CREEK ROAD/ROYER STREET ROADWAY PLAN	Project No./Code	10114-02
No Revisions:	E LAS VEGAS STREET	Sheet Number	
Revised:	Designer: BJH		
Void:	Detailer: BJH		
	Sheet Subset: ROADWAY		
	Subset Sheets: RP 5 of 10		

# Markup Summary

Locked (9)



**Subject:** Text Box  
**Page Label:** 1  
**Lock:** Locked  
**Author:** Daniel Torres  
**Date:** 9/25/2019 10:15:11 AM  
**Color:** ■

Add PCD File No. PPR1913



**Subject:** Callout  
**Page Label:** 4  
**Lock:** Locked  
**Author:** Daniel Torres  
**Date:** 9/25/2019 10:15:12 AM  
**Color:** ■

It appears that this is a project by the City of Colorado Springs. Please state that in the narrative. Will the City be performing the improvements to the site access?



**Subject:** Callout  
**Page Label:** 4  
**Lock:** Locked  
**Author:** Daniel Torres  
**Date:** 9/25/2019 10:15:13 AM  
**Color:** ■

Which is the planned speed limit, 40 or 45 mph? Revise accordingly.



**Subject:** Callout  
**Page Label:** 4  
**Lock:** Locked  
**Author:** Daniel Torres  
**Date:** 9/25/2019 10:15:14 AM  
**Color:** ■

Submit a deviation request form. please use the latest form.



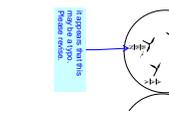
**Subject:** Callout  
**Page Label:** 5  
**Lock:** Locked  
**Author:** Daniel Torres  
**Date:** 9/25/2019 10:15:16 AM  
**Color:** ■

Please state who will be responsible for constructing this improvement.



**Subject:** Text Box  
**Page Label:** 5  
**Lock:** Locked  
**Author:** Daniel Torres  
**Date:** 9/25/2019 10:15:16 AM  
**Color:** ■

- Clearly state in the text what the ADT is for the site access and along Las Vegas St.
- State whether the MTCP or other approved corridor study calls for the construction of improvements in the area.
- State what the sight distance is for the access and whether it can be met. If it cannot be met, state the required modifications so that it can be met.
- List any other traffic studies in the area within the past 5 years and state whether the current study is consistent with those studies. If there is none than please state it.



**Subject:** Callout  
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it appears that this may be a typo. Please revise.



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**Page Label:** 7  
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**Author:** Daniel Torres  
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Provide ADT