



## SM ROCHA, LLC

TRAFFIC AND TRANSPORTATION CONSULTANTS

November 1, 2024

Drew Balsick  
Flying Horse Development  
2138 Flying Horse Club Drive  
Colorado Springs, Colorado 80921

Please include a deviation request for the intersection of Rubble Dr and Black Forest Rd. This intersection does not meet intersection spacing for a minor arterial roadway. It is less than 1/4 mile from the intersection with Terra Ridge Cir to the north. Justification for the location of the intersection may include the acceptance of the location of the intersection within the PUD.

**RE: Flying Horse North Filing 4 / Traffic Generation Analysis  
El Paso County, Colorado**

Dear Drew,

SM ROCHA, LLC is pleased to provide traffic generation information for the development entitled Flying Horse North Filing 4. This development is located near the southwest corner of Black Forest Road and Old Stagecoach Road in El Paso County, Colorado.

The intent of this analysis is to present traffic volumes likely generated by the proposed development, provide a traffic volume comparison to previous land use assumptions approved for the development site, and consider potential impacts to the adjacent roadway network. This letter also serves as an update to the previously approved Flying Horse North Updated Traffic Impact Analysis<sup>1</sup> prepared for the overall Preliminary Plan application, pursuant to Section B.1.2.D of El Paso County's Engineering Criteria Manual (ECM)<sup>2</sup>.

The following is a summary of analysis results.

### Site Description and Access

Land for the development is currently vacant and surrounded by a mix of residential and recreational land uses. The proposed development is understood to entail the new construction of 50 single-family detached homes.

Proposed access to the overall development area is general and provided along Old Stagecoach Road and Rubble Drive.

A vicinity map of the site area is shown on Figure 1.

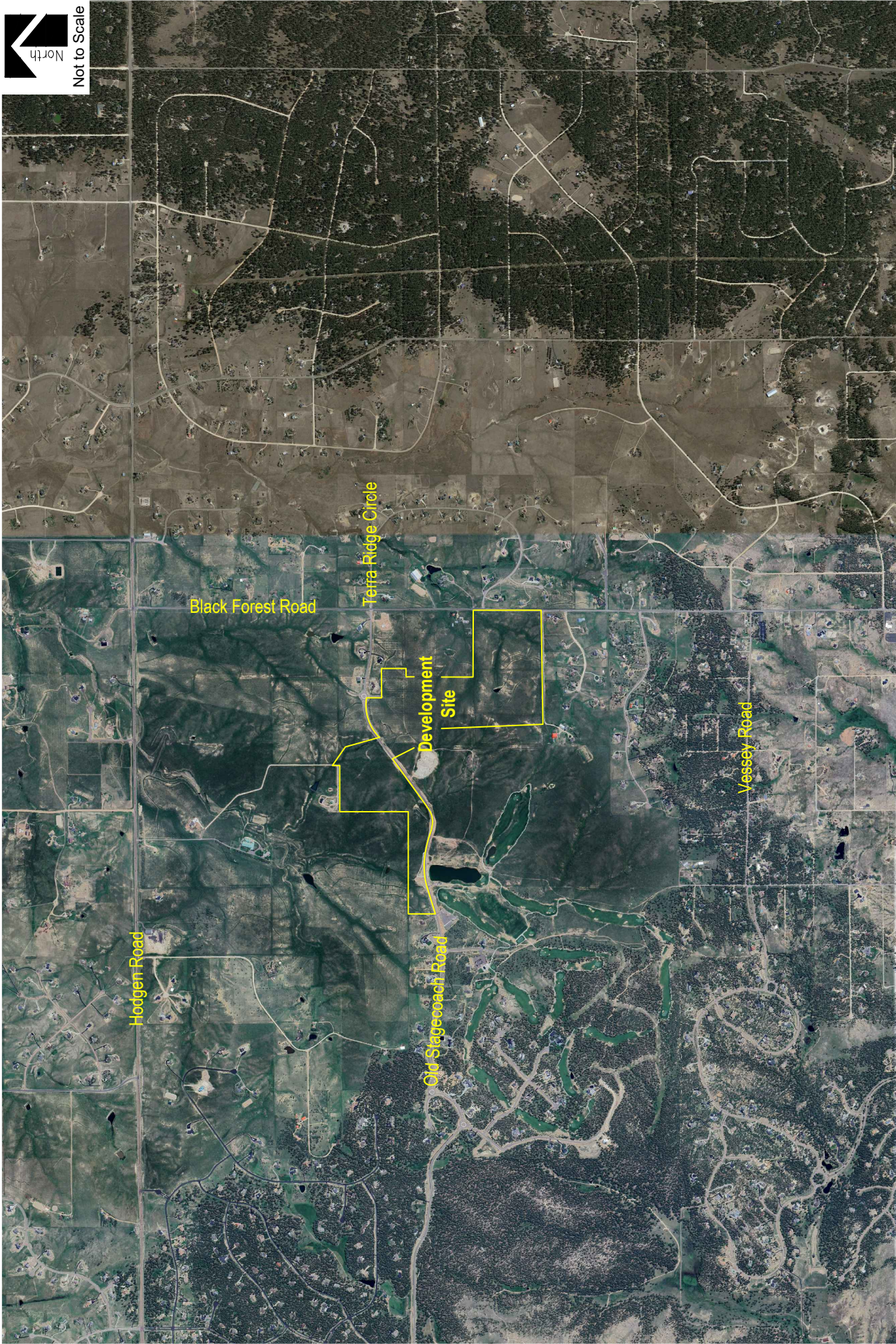
A site plan, as prepared by HR Green, Inc., is shown on Figure 2. This plan is provided for illustrative purposes only.

<sup>1</sup> Flying Horse North: Updated Traffic Impact Analysis, LSC Transportation Consultants, Inc., July 21, 2016.

<sup>2</sup> El Paso County Engineering Criteria Manual, El Paso County, October 2020.



Not to Scale





Not to Scale

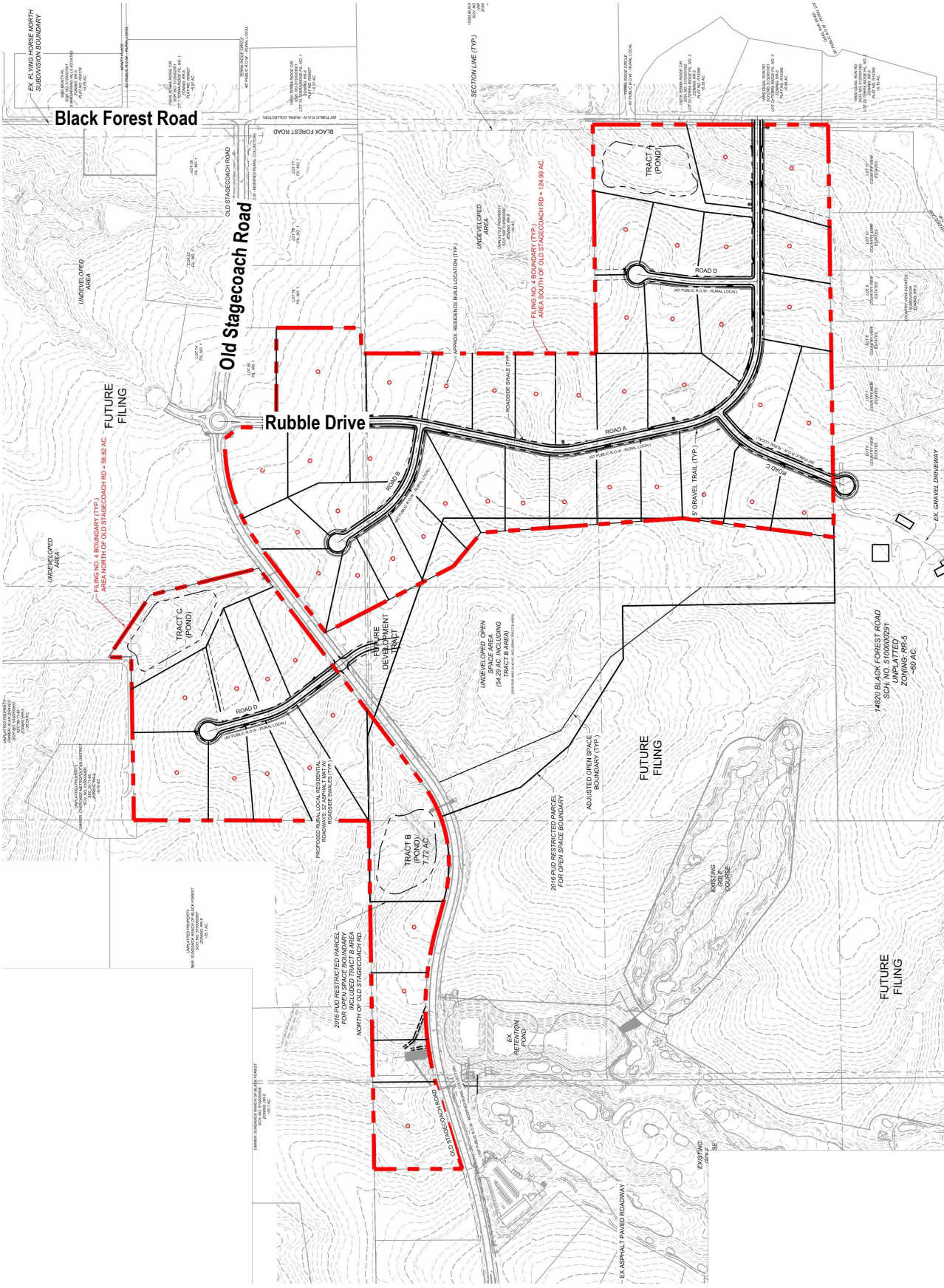


Figure 2  
SITE PLAN

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FLYING HORSE NORTH FILING 4  
Traffic Generation Analysis

SM ROCHA, LLC  
Traffic and Transportation Consultants



### Vehicle Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11<sup>th</sup> Edition, were applied to the proposed land use in order to estimate the average daily traffic (ADT) and peak hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from point of origin to point of destination.

The previously approved Flying Horse North Updated Traffic Impact Analysis prepared for the overall Preliminary Plan used trip generation rates from ITE’s Trip Generation Manual, 9<sup>th</sup> Edition and included “Single-Family Detached Housing” land use in the same development area as currently proposed with this project.

Table 1 presents average trip generation rates for the development area proposed. Use of average trip generation rates presents a conservative analysis. ITE land use code 210 (Single-Family Detached Housing) was maintained for analysis because of its best fit to the proposed land use.

**Table 1 – Trip Generation Rates**

ITE CODE	LAND USE	UNIT	TRIP GENERATION RATES						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single-Family Detached Housing	DU	9.43	0.18	0.53	0.70	0.59	0.35	0.94

Key: DU = Dwelling Units.  
 Note: All data and calculations above are subject to being rounded to nearest value.

Table 2 summarizes the projected ADT and peak hour traffic volumes likely generated by the land use area proposed and provides comparison to traffic volume estimates for the previously approved land use.

**Table 2 – Trip Generation Summary**

ITE CODE	LAND USE	SIZE	TOTAL TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
<u>Site Development - Previously Approved *</u>									
210	Single-Family Detached Housing	41 DU	390	8	23	31	26	15	41
<i>Previously Approved Total:</i>			390	8	23	31	26	15	41
<u>Site Development - Proposed</u>									
210	Single-Family Detached Housing	50 DU	472	9	26	35	30	17	47
<i>Proposed Total:</i>			472	9	26	35	30	17	47
<b><i>Difference Total:</i></b>			<b>81</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>6</b>

Key: DU = Dwelling Units.  
 Note: All data and calculations above are subject to being rounded to nearest value.  
 \* = Trip generation rates from ITE’s Trip Generation Manual, 9<sup>th</sup> Edition.

As Table 2 shows, the proposed development area has the potential to generate approximately 472 daily trips with 35 of those occurring during the morning peak hour and 47 during the afternoon peak hour. Compared to the previously approved land use, this represents a potential increase in site generation of approximately 81 daily trips with 4 of those occurring during the morning peak traffic hour and 6 during the afternoon peak traffic hour.

### **Adjustments to Trip Generation Rates**

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

### **Vehicle Trip Generation Comparison & Development Impacts**

As Table 2 shows, there is an increase in peak hour traffic volumes anticipated for the proposed development. However, these volumes are considered minor and are not likely to negatively impact operations of Rubble Drive, Old Stagecoach Road, nor other adjacent roadways or intersections.

### **Total Traffic Auxiliary Lane Analysis**

Auxiliary lanes for site development access drives were based on the County's ECM.

An evaluation of auxiliary lane requirements, pursuant to Section 2.3.7 of the County's ECM, reveals how exclusive left turn lanes are required along minor arterial and lower classification roadways when projected peak hour turning volumes meet or exceed 25 vehicles per hour (VPH). Additionally, right turn lanes are required along minor arterial and lower classification roadways when projected peak hour turning volumes meet or exceed 50 VPH.

### **Recommended Improvements**

Pursuant to the previous Flying Horse North Updated Traffic Impact Analysis prepared for the Flying Horse North PUD dated 2016, the development area proposed with this plat application was previously assumed as part of development Phases 4, 6, and 11.

Table 3 of the referenced traffic analysis shows how auxiliary lane improvements to the State Highway 83 intersection with Stagecoach Road were recommended upon completion of Phase 3 (build-out of 75 dwelling units). However, a recent site visit of the study area concludes how auxiliary lane improvements to the Stagecoach Road and State Highway 83 intersection have already been implemented.

Additionally, the referenced traffic analysis shows that auxiliary lane improvements for the Stagecoach Road and Black Forest Road intersection were recommended upon completion of Phase 7 (build-out of 162 dwelling units).

Upon buildout of Flying Horse North Filing 4, there is expected to be 182 total dwelling units constructed within the overall Flying Horse North development area. As such, it is likely that a northbound left-turn lane along Black Forest Road at Old Stagecoach Road may be needed upon full buildout of Filing 4.

Previous trip generation estimates and recommended improvement information from the 2016 Flying Horse North Updated Traffic Impact Analysis are provided for reference in Attachment A.

## Conclusion

This analysis assessed traffic generation for the Flying Horse North Filing 4 development, provided a traffic volume comparison to previous land use assumptions approved for the development site, and considered potential impacts to the adjacent roadway network.

It is our professional opinion that the proposed site-generated traffic resulting from the development is expected to create no negative impact to traffic operations for the surrounding roadway network and proposed site access drives, nor at the Old Stagecoach Road intersection with Black Forest Road, and is in compliance with the Flying Horse North Updated Traffic Impact Analysis.

A full traffic impact analysis will be provided with the forthcoming Flying Horse North Major PUD Amendment, which is understood to provide traffic analyses for Flying Horse North Filings 4 through 7.

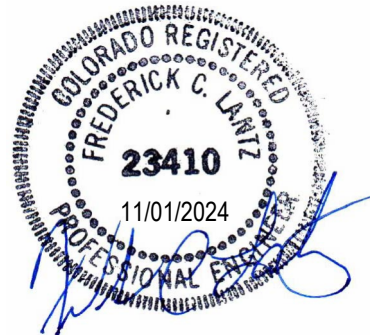
We trust that our findings will assist in the planning and approval of the Flying Horse North Filing 4 development. Please contact us should further assistance be needed.

Sincerely,

**SM ROCHA, LLC**  
*Traffic and Transportation Consultants*



Megan Bock, EIT  
Traffic Engineer



Fred Lantz, PE  
Traffic Engineer

**ATTACHMENT A**

**2016 Flying Horse North Updated Traffic Impact Analysis**



**Table 2**  
**Trip Generation Estimate**  
**Flying Horse at Shamrock Ranch East**

Phase	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates <sup>(1)</sup>						Total Trips Generated					
				Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out		
<b>1-2</b>	210	Single-Family Detached Housing	43 DU <sup>(2)</sup>	9.52	0.19	0.56	0.63	0.37	409	8	24	27	16		
				136 DU	9.52	0.19	0.56	0.63	0.37	1,295	26	77	86	50	
<b>1-6</b>	430	Golf Course	18 holes	35.74	1.63	0.43	1.49	1.43	643	29	8	27	26		
				<b>1,938</b>	<b>55</b>	<b>84</b>	<b>112</b>	<b>76</b>							
<b>Buildout</b>	210	Single-Family Detached Housing	283 DU	9.52	0.19	0.56	0.63	0.37	2,694	53	159	178	105		
				18 holes	35.74	1.63	0.43	1.49	1.43	643	29	8	27	26	
				<b>3,337</b>	<b>82</b>	<b>167</b>	<b>205</b>	<b>130</b>							

**Notes:**

(1) Source: "Trip Generation, 9th Edition, 2012" by the Institute of Transportation Engineers (ITE)

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

**Table 3  
Recommended Improvements  
Flying Horse at Shamrock Ranch East**

<b>Intersection/Road</b>	<b>Improvement</b>	<b>Lane Length (ft)</b>	<b>Taper Length (ft)</b>	<b>Phase When Required</b>
SH 83/Stagecoach	Northbound Right-Turn Deceleration Lane	378	222	3
	Northbound Right-Turn Acceleration Lane	738	222	3
	Southbound Left-Turn Lane	418	222	3
	Southbound Left-Turn Acceleration Lane	738	222	3
Hogden/Full-Movement Site Access	No Auxiliary Lanes Required			
Hodgen/Black Forest (West)	No Additional Auxiliary Lanes Required			
Black Forest/Stagecoach	Northbound Left-Turn Lane	340	240	7
Black Forest/Site Access Points	No Auxiliary Lanes Required			
Holmes Road	Pave	N/A	N/A	9

Source: LSC Transportation Consultants, Inc.