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Silverado Ranch Filing No. 1
Transportation Memorandum
PCD File No.: SF-1811
(LSC #184580)
July 3, 2018

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.



7-3-18
Date

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July 3, 2018

Mr. Stan Searle
2500 East Highway 105
Monument, CO 80132

RE: Silverado Ranch Filing No. 1
El Paso County, Colorado
Transportation Memorandum
LSC #184580

Dear Mr. Searle

This Transportation Memorandum has been prepared for the proposed Silverado Ranch Filing No. 1. LSC Transportation Consultants, Inc. prepared the "Silverado Ranch Updated Traffic Impact Analysis" dated January 18, 2008, which provides a detailed traffic engineering evaluation and recommendations for the entire Silverado Ranch subdivision. This report contains the following updates to the 2008 study with respect to Filing No. 1:

- The currently proposed Filing No. 1 proposed land use and access.
- The adjacent roadway traffic volumes based on current traffic count data
- Filing 1 Trip Generation Estimate
- Future background traffic
- Intersection/Access sight distance
- Auxiliary Turn Lane needs assessment for Filing No. 1
- Recommended Filing 1 street classifications
- County Road Improvement Fee Program with respect to Filing No. 1

Land Use and Phasing

The Filing No. 1 site is to be located southeast of the intersection of Peyton Highway and Drennan Road. The subdivision plat is attached for reference. Ten single family residential lots are proposed for Filing No. 1. and initial access to Filing No. 1 will be to Drennan Road only. This differs from the phasing in the January 2008 TIS which showed "Phase 1" as 20 lots on the west portion (approximately one-third) of the site with Phase 1 access to both Drennan Road and Peyton Highway. The current Filing 1 access location is proposed at 1,267 feet east of Peyton Highway (centerline spacing).

The approved Silverado Ranch PUD consists of 64 rural residential lots on a 320-acre property, with a minimum lot size of 2.5 acres. The proposed Amendment to the Silverado Ranch PUD and Preliminary Plan consists of minor adjustments in lot lines and tract boundaries, and there are no changes to the proposed road layout or total number of lots.

Two full-movement access points are proposed. The Filing 1 access proposed to Drennan Road is 1,260 feet east of Peyton Highway. The PUD and Preliminary Plan also show a future access to Peyton Highway 1,455 feet south of Drennan Road.

Trip Generation

Estimates of the traffic volumes expected to be generated by Filing No. 1 have been made using the nationally published trip generation rates found in Trip Generation, 10th Edition, 2017 by the Institute of Transportation Engineers (ITE). Table 1 shows the results of the trip generation estimates.

As shown in Table 1, the proposed development is projected to generate about 94 vehicle trips on the average weekday, with about one-half of the vehicles entering and one-half of the vehicles exiting in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 2 vehicles would enter and 6 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:30 and 6:30 p.m., about 6 vehicles would enter and 2 vehicles would exit the site.

Existing Traffic Volumes

The attached count data sheets show the existing peak-hour traffic volumes at the intersections of Peyton Highway/Drennan Road. The current (June 2018) morning peak hour volume on Drennan Road adjacent to the site (both directions) is 6 vehicles per hour (both directions) and the afternoon peak hour volume is 12 vehicles per hour. The current daily volumes on Drennan Road are likely between about 100 to 150 vehicles per day based on factored peak hour count data.

Future Background Traffic

The future background traffic estimated for adjacent Drennan Road and Peyton Highway in the 2008 report is likely conservative, even for 2040. The estimates had anticipated development within the Ellicott Springs Sketch Plan area. The overall growth rate in peak hour traffic volumes since 2006 has been about 1.5 percent per year. The overall AM plus PM peak hour entering intersection volumes have increased from 70 in 2006 to 94 in 2018. Based on the count data, the overall increase in vehicles at this intersection has only increased by 24 vehicles in twelve years.

The Projected 2040 volumes in the current MTCP indicate about 3,300 vehicles per day on Peyton Highway south of the site. This volume is lower than the estimated 2030 total volume in the 2006 TIS (3,750). The current MTCP also indicates about 3,500 vehicles per day on Drennan road west of Peyton Highway. This volume is significantly lower than the estimated 2030 total volume in the 2006 TIS (7,750).

The current daily volumes on Drennan Road are likely between about 100 to 150 vehicles per day based on factored peak hour count data.

Access Intersection Sight Distance

In 2007, the El Paso County staff asked LSC to *determine the Drennan Road/site access intersection location that meets the sight distance criteria and is as close to the one-quarter mile point east of Peyton Highway as possible.*

The ECM-prescribed sight distance for a 45-mph posted speed limit (assumed 50 mph design speed) is 555 feet for passenger vehicles. The AASHTO required intersection sight distance for a single-unit truck (school bus) is 700 feet.

In a 2007 letter, LSC indicated:

[..the recommended Drennan Road/site access intersection location is 1,260 feet east from the center line of Peyton Highway. The sight distance at the recommended Drennan Road/site access intersection location was field measured as greater than one-quarter mile in both directions. This location has acceptable sight distance closest to the one-quarter mile point. As shown on Figure 2, the intersection would be located between the two existing structures on the property on the north side of Drennan Road and about 20 feet east of the power pole shown on the site plan.]

The access location as currently shown on the Filing 1 plans would meet sight distance criteria. A 700-foot lines-of-sight along Drennan Road should be maintained and free of any site improvements that would restrict the lines of sight such as signs, landscaping, etc.

A copy of March 30, 2010 *Sight Distance Memorandum* by LSC is attached for reference as requested by Staff.

Street Classification

The Filing No. 1 streets should be classified as Rural Local. The current 2040 MTCP identifies Drennan Road as a two-lane Collector.

Auxiliary Turn Lane Improvements

Filing 1 will not “trigger” the requirement for any auxiliary left or right turn lanes at the site access or at the Peyton Highway/Drennan Road intersection.

County Road Impact Fee Program

This project will be required to participate in the El Paso County Road Improvement Fee Program. The applicant will join the ten-mil PID. The ten-mil PID building permit fee portion associated with this option is \$923 per single-family dwelling unit. Based on 10 lots, the total building permit fee would be \$9,230.

Drennan Road is classified as a Collector on the County Major Transportation Corridors Plan. The MTCP identifies an anticipated the need for future paving of Drennan Road between Curtis Road and Ellicott Highway. The MTCP “Project ID” is P8. Therefore, the applicant would be eligible for credit under the terms of the Roadway Improvement Fee Program, if required to pave the portion of Drennan from the access to Peyton Highway.

* * * * *

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH

Enclosures: Table 1
Traffic Count Reports

**Table 1
Trip Generation Estimate
Silverado Ranch Filing No. 1**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽²⁾				Total Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out	In	Out
210	Single-Family Detached Housing	10 DU	9.44	0.19	0.56	0.62	0.37	94	2	6	6	4

Notes:
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)
(2) DU = dwelling unit
Source: LSC Transportation Consultants, Inc.

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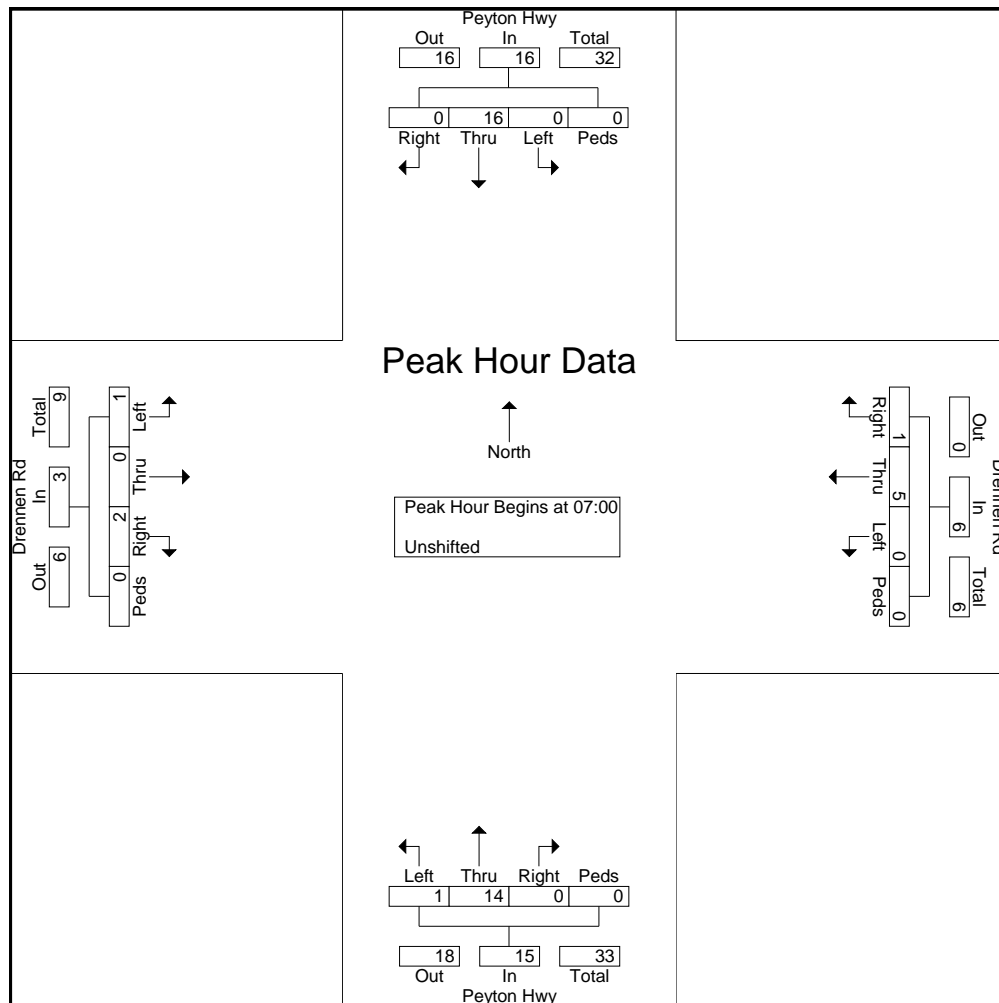
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 Change These in The Preferences Window
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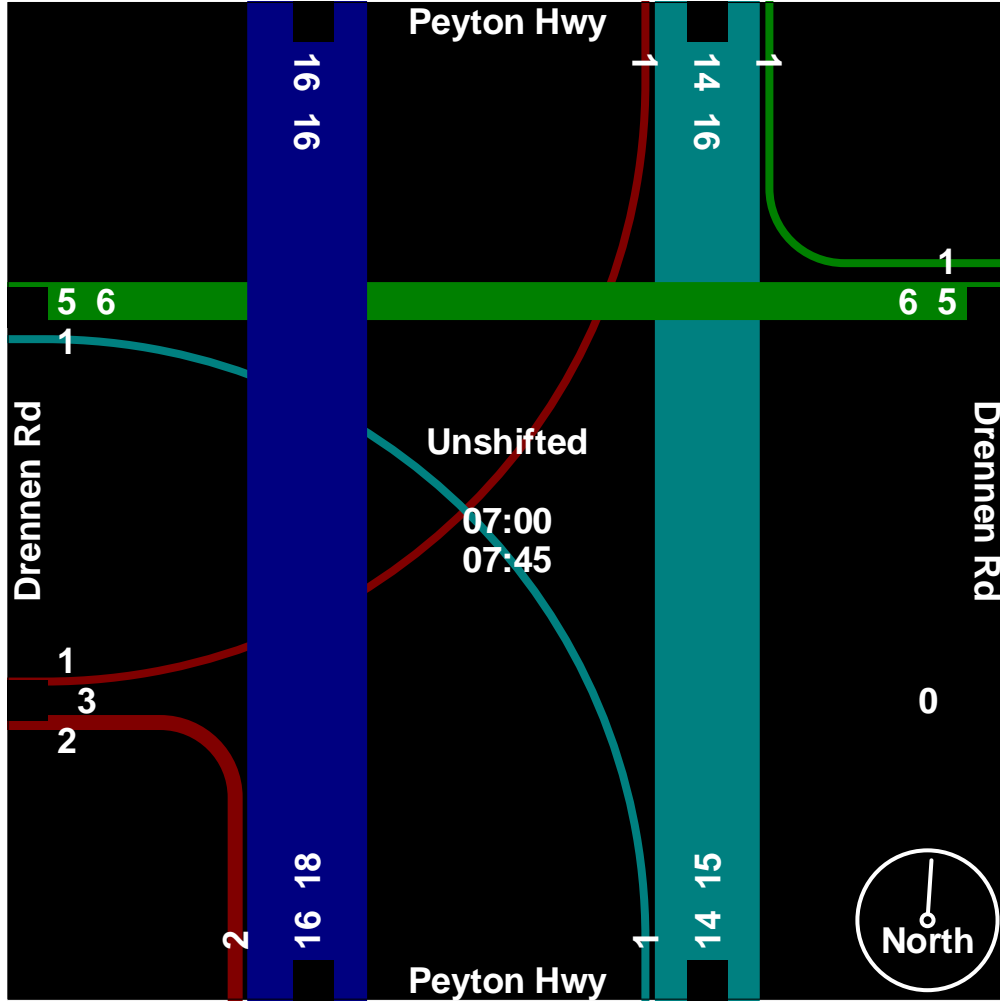
Groups Printed- Unshifted

Start Time	Peyton Hwy Southbound					Drennen Rd Westbound					Peyton Hwy Northbound					Drennen Rd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:30	0	2	0	0	2	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	8
06:45	0	0	1	0	1	0	5	1	0	6	0	1	0	0	1	0	0	0	0	0	8
Total	0	2	1	0	3	0	8	1	0	9	0	4	0	0	4	0	0	0	0	0	16
07:00	0	5	0	0	5	0	2	1	0	3	0	5	0	0	5	0	0	0	0	0	13
07:15	0	4	0	0	4	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	9
07:30	0	4	0	0	4	0	1	0	0	1	1	2	0	0	3	0	0	0	0	0	8
07:45	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	1	0	2	0	3	10
Total	0	16	0	0	16	0	5	1	0	6	1	14	0	0	15	1	0	2	0	3	40
08:00	1	3	1	0	5	1	0	1	0	2	0	3	0	0	3	1	0	1	0	2	12
08:15	1	1	0	0	2	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	6

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	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	5	0	0	5	0	2	1	0	3	0	5	0	0	5	0	0	0	0	0	13
07:15	0	4	0	0	4	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	9
07:30	0	4	0	0	4	0	1	0	0	1	1	2	0	0	3	0	0	0	0	0	8
07:45	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	1	0	2	0	3	10
Total Volume	0	16	0	0	16	0	5	1	0	6	1	14	0	0	15	1	0	2	0	3	40
% App. Total	0	100	0	0		0	83.3	16.7	0		6.7	93.3	0	0		33.3	0	66.7	0		
PHF	.000	.800	.000	.000	.800	.000	.625	.250	.000	.500	.250	.700	.000	.000	.750	.250	.000	.250	.000	.250	.769





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	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
16:00	0	6	1	0	7	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	9
16:15	1	6	1	0	8	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	10
16:30	0	5	1	0	6	0	1	0	0	1	0	3	0	0	3	1	3	0	0	4	14
16:45	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	1	2	0	3	9
Total	1	19	3	0	23	0	1	2	0	3	0	9	0	0	9	1	4	2	0	7	42
17:00	1	3	1	0	5	0	2	1	0	3	1	5	0	0	6	3	0	0	0	3	17
17:15	0	4	0	0	4	0	1	0	0	1	0	6	1	0	7	0	4	0	0	4	16
17:30	2	3	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
17:45	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
Total	3	14	2	0	19	0	3	1	0	4	1	15	1	0	17	3	4	0	0	7	47

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Start Time	Peyton Hwy Southbound					Drennen Rd Westbound					Peyton Hwy Northbound					Drennen Rd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	5	1	0	6	0	1	0	0	1	0	3	0	0	3	1	3	0	0	4	14
16:45	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	1	2	0	3	9
17:00	1	3	1	0	5	0	2	1	0	3	1	5	0	0	6	3	0	0	0	3	17
17:15	0	4	0	0	4	0	1	0	0	1	0	6	1	0	7	0	4	0	0	4	16
Total Volume	1	14	2	0	17	0	4	1	0	5	1	18	1	0	20	4	8	2	0	14	56
% App. Total	5.9	82.4	11.8	0		0	80	20	0		5	90	5	0		28.6	57.1	14.3	0		
PHF	.250	.700	.500	.000	.708	.000	.500	.250	.000	.417	.250	.750	.250	.000	.714	.333	.500	.250	.000	.875	.824

