LSC TRANSPORTATION CONSULTANTS, INC.
2504 East Pikes Peak Avenue, Suite 304
Colorado Springs, CO 80909
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: http://www.lsctrans.com

Sterling Ranch Sketch Plan
2023 Amendment & Rezone
Traffic Technical Memorandum

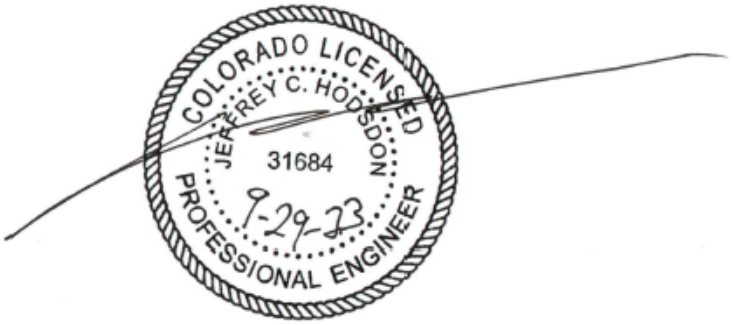
(LSC #S224441)

September 28, 2023

Add "PCD Filing No. SKP235, P239, P2310, and P2311"

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.

_____ v.1

9/28/23
Date

Sterling Ranch Sketch Plan
2023 Amendment and Rezone
Traffic Technical Memorandum

Prepared for:
Loren J. Moreland
Vice President/ Project Manager
Classic SRJ
2138 Flying Horse Club Drive
Colorado Springs, CO 80921

SEPTEMBER 28, 2023

LSC Transportation Consultants
Prepared by: Kirstin D. Ferrin, P.E.
Reviewed by: Jeffrey C. Hodsdon, P.E.

LSC #S224441

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September 28, 2023

Loren J. Moreland
Vice President/ Project Manager
Classic SRJ
2138 Flying Horse Club Drive
Colorado Springs, CO 80921

RE: Sterling Ranch Sketch Plan
2023 Amendment and Rezone
Traffic Technical Memorandum
El Paso County, Colorado
LSC #S224441

Dear Mr. Moreland:

LSC Transportation Consultants, Inc. has prepared this traffic technical memorandum for the currently proposed amendment to the Sterling Ranch Sketch Plan and proposed rezone of the parcels north of Briargate Parkway and east of Sterling Ranch Road. As shown in Figure 1, Sterling Ranch is located east of Vollmer Road near Lochwinnoch Lane between the future extensions of Marksheffel Road and Stapleton Drive in El Paso County, Colorado. LSC prepared a master traffic impact study (MTIS) for the entire Sterling Ranch development dated June 5, 2008. This master study was updated October 21, 2022, December 22, 2022, February 10, 2023, and March 17, 2023 (approved version) (SKP-22-004). The purpose of this memorandum is to confirm that the land uses allowed by the currently proposed Sketch Plan amendment conform to the overall land uses assumed in the approved version of the MTIS.

This memo also addresses the potential localized **shift** of up to about 118 dwelling units into the area north of Briargate Parkway including the parcels to be rezoned by providing a "sensitivity analysis." The results of this analysis demonstrate that the prior findings and recommendations contained in the MTIS would remain valid.

STUDY AREA

Sketch Plan

Figure 2 shows the location of the proposed rezone area and the proposed amendment to the Sketch Plan is attached. The 1,444-acre Sterling Ranch Sketch Plan area is partially developed and planned to ultimately include a mix of residential, commercial, and educational land uses. The

number of residential dwelling units for Sterling Ranch is capped at 4,800. No change to the maximum number of residential dwelling units is proposed as part of the 2023 Sketch Plan Amendment. However, the currently proposed plan includes a rezone of the parcels north of Briargate Parkway to allow for higher residential densities.

The 2022 MTIS assumed the Sterling Ranch development would be built with the maximum allowable number of residential units. As many of the residential parcels within Sterling Ranch were either existing, approved, under review, or in the preliminary planning stages, and therefore had a known number of dwelling units, the MTIS assumed that the areas north of Briargate Parkway and east of Sterling Ranch Road where detailed plans had not yet been made would be developed with the number of dwelling units needed to reach the maximum of 4,800 dwelling units for the overall development even though that number was greater than what was allowed by the zoning for those parcels. This area was included in the MTIS as Traffic Analysis Zones (TAZ) 30, 34, 35, 36 (which are located just north of Briargate Parkway), and TAZ 101 (currently proposed to be rezoned). Table 1 shows the number of residential dwelling units assumed in the MTIS for each TAZ in this area and the number of dwelling units that would be allowed based on the currently proposed plan. As shown in Table 1, the MTIS assumed 1,302 single-family residential dwelling units in this area (TAZs 30, 34, 35, 36, and 101). The currently-proposed plan would allow between 894 and 1,438 residential single-family residential dwelling units. As the total number of allowable residential dwelling units in the overall Sterling Ranch development has **not** been increased, the 1,302 dwelling units shown for this area in the MTIS is likely still a reasonable assumption. If up to 1,418 dwelling units are constructed in the area north of Briargate Parkway and east of Sterling Ranch Road, the number of dwelling units in other areas of Sterling Ranch Sketch Plan area that have not yet been developed would need to be reduced by at least 116 dwelling units (so the overall Sterling Ranch dwelling unit cap is not exceeded).

Study-Area Access Plan

No changes to the access plan are proposed as part of this Sketch Plan Amendment.

TRIP GENERATION

Table 2 shows the trip-generation estimate for the areas north of Briargate Parkway and east of Sterling Ranch Road (TAZs 30, 34, 35, 36 and 101) should they be developed with 1,418 residential dwelling units, which is the maximum number of units based on the currently-proposed zoning. The trip generation was estimated using the nationally-published trip-generation rates from *Trip Generation, 11th Edition*, 2021 by the Institute of Transportation Engineers (ITE). Note that the trip generation for the **overall** Sterling Ranch Master Plan is not anticipated to change from what was assumed in the March 2023 MTIS as the maximum number of residential units for the overall sketch plan area is capped at 4,800 dwelling units. Should 1,418 residential dwelling units be constructed within the area north of Briargate Parkway and east of Sterling Ranch Road currently-proposed amendment area, the number of units in other areas of the Sterling Ranch

Address how Sterling Ranch Road will be connected to Arroya Lane and the anticipated classification of Arroya, and with the additional density in this area how this increases the possibility of the ultimate east-west connection of Arroya Lane along the north side of Sterling Ranch (if the property to the north subdivides).

Sketch Plan not currently developed would need to be reduced by 116 units so that the 4,800 cap is not exceeded.

If the maximum number of residential units is developed within the areas north of Briargate Parkway and east of Sterling Ranch Road, this area is projected to generate about 13,372 new external vehicle trips on the average weekday, with about half entering and half exiting the area during a 24-hour period. This is about 1,094 more daily trips than were estimated for the same area in the March 2023 MTIS.

Figures 3a and 3b show the site-generated traffic volume at the key intersections that will serve the area north of Briargate Parkway and east of Sterling Ranch Road, assuming this area is developed with 1,418 single-family residential units. These volumes are based on the trip-generation estimate shown in Table 2 and the directional-distribution estimate from the March 2023 MTIS.

SENSITVITY ANALYSIS

As the currently-proposed sketch-plan amendment does not increase the maximum number of residential dwelling units allowed within the overall Sterling Ranch Sketch Plan above the 4,800 units allowed in the approved plan, the 2042 total traffic volumes and level of service analysis from the March 2023 MTIS are generally still applicable. LSC has prepared this "sensitivity analysis" of the possible scenario in which the maximum allowable number of dwelling units is constructed within the areas north of Briargate Parkway and east of Sterling Ranch Road. This would require the number of units in areas outside of the currently-proposed amendment area to be reduced by 118 units, but to be conservative, this sensitivity analysis assumes no changes (reduction in trip generation) to the land uses outside of this area. The purpose of this sensitivity analysis is to determine if the proposed lane geometry and roadway classifications for the key intersections and street sections serving the amendment area are still appropriate.

Figure 4a shows the projected 2042 total daily traffic volumes on key street segments and Figure 4b shows the projected 2042 total peak-hour traffic volumes at the key study-area intersections, should 1,418 single-family homes be built within the area north of Briargate Parkway and east of Sterling Ranch Road. These volumes are the sum of the 2042 baseline traffic volumes from the March 2023 MTIS and the site-generated traffic volumes from Figures 3a and 3b.

Figure 4c shows the results of the level of service analysis based on the volumes shown in Figure 4b and the lane geometry shown in Figure 4c. As shown in Figure 4c, all of the movements at the stop-sign-controlled intersection of Vollmer/Arroya (Intersection #2) are projected to operate at LOS C or better during the peak hours. All movements at the future signalized intersection of Briargate/Sterling Ranch (Intersection #5) are projected to operate at LOS D or better during the peak hours. All movements at the future signalized intersection of Briargate/Banning Lewis (Intersection #6) for the westbound left-turn and northbound left-turn

movement at Banning Lewis/Briargate are projected to operate at LOS E, which is **consistent with the level of service analysis shown in the MTIS at this intersection.**

ROADWAY FUNCTIONAL CLASSIFICATIONS AND LANEAGE

Figure 5 shows the recommended functional classifications and number of through lanes for the streets in the study area. Figure 5 also shows a comparison of the projected average weekday traffic volume (ADT) and the design ADT from the *ECM* for the key street segments in the vicinity of the site. All of the projected weekday traffic volumes are below the design ADT volumes.

CONCLUSIONS AND RECOMMENDATIONS

As residential dwelling unit cap for Sterling Ranch is not proposed to be raised and the number of dwelling units assumed in the MTIS for the parcels north of Briargate Parkway and east of Sterling Ranch Road are within the range allowed by the proposed updated residential densities, the conclusions and recommendations in the *Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study*, by LSC Transportation Consultants, Inc. dated March 17, 2023, are still valid.

* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By Jeffrey C. Hodsdon, P.E.
Principal

JCH/KDF:jas

Enclosures: Tables 1-2
Figures 1-5
Level of Service Reports
Sterling Ranch Sketch Plan Amendment 2023

Tables 1-2

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Table 1
Sterling Ranch Sketch Plan 2023 Amendment
Land Use Comparison

Traffic Analysis Zone[(2)]	Name	Land Uses Assumed in the *Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study,* March 17, 2023			Land Uses Allowed by the Currently Proposed Sterling Ranch Sketch Plan 2023 Amendment					
							Minimum		Maximum	
		Land Use	Quantity	Unit	Land Use	(Acres)	Quantity	Unit	Quantity	Unit
101	Future Sterling Ranch East East of TimberRidge	Residential 0.2-5 DU/Ac	431	DU	Residential 2.5 Acre Lots	31	12	DU	12	DU
					Residential 2 DU/Ac	33	66	DU	66	DU
					Residential 3-5 DU/Ac	125	375	DU	625	DU
		TOTAL TAZs 30, 34, 35, 36	**431**	**DU**			**453**	**DU**	**703**	**DU**
30, 34, 35 & 36	Future Sterling Ranch East North of Briargate	Residential 3-5 DU/Ac	871	DU	Residential 3-5 DU/Ac	143	429	DU	715	DU
		TOTAL TAZs 30, 34, 35, 36 & 101	**1,302**	**DU**			**882**	**DU**	**1,418**	**DU**

Notes:
(1) See Figure 3 from the MTIS for Traffic Analysis Zone Boundaries
(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc. *Sep-23*

Table 2
Sterling Ranch Sketch Plan 2023 Amendment
Trip Generation Estimate Comparison for the Amendment Area

Sketch Plan TAZ[1]	ITE Code	ITE Land Use	Quantity	Unit	Trip Generation Rates[2] Daily	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour In	PM Peak Hour Out	Total Trip Generated Daily	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour In	PM Peak Hour Out
Maximum Trip Generation Estimate for the 2023 Amendment Area Based on the Currently Proposed Sterling Ranch Sketch Plan 2023 Amendment[3]														
101	210	Single-Family Detached Housing	703	DU[3]	9.43	0.18	0.52	0.59	0.35	6,629	128	364	416	245
30, 34, 35 & 26	210	Single-Family Detached Housing	715	DU	9.43	0.18	0.52	0.59	0.35	6,742	130	370	423	249
		Total	**1,418**	**DU**						**13,372**	**258**	**735**	**840**	**493**
Trip Generation Estimate for the 2023 Amendment Area From the *Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study*, March 17, 2023														
101	210	Single-Family Detached Housing	431	DU	9.43	0.18	0.52	0.59	0.35	4,064	78	223	255	150
30, 34, 35 & 26	210	Single-Family Detached Housing	871	DU	9.43	0.18	0.52	0.59	0.35	8,214	159	451	516	303
		Total	**1,302**	**DU**						**12,278**	**237**	**674**	**771**	**453**
		Change From The Approved MTIS[4]	**116**	**DU**						**1,094**	**21**	**60**	**69**	**40**

Notes:

(1) See Figure 2 for Traffic Analysis Zone boundaries

(2) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE)

(3) DU = Dwelling Unit

(4) If up to 1,418 dwelling units are constructed in the currently proposed amendment area, the number of dwelling units in other areas of Sterling Ranch Sketch Plan area that have not yet been developed would need to be reduced by at least 116 dwelling units (so the overall Sterling Ranch dwelling unit cap is not exceeded).

Source: LSC Transportation Consultants, Inc. *Sep-23*

Figures 1-5

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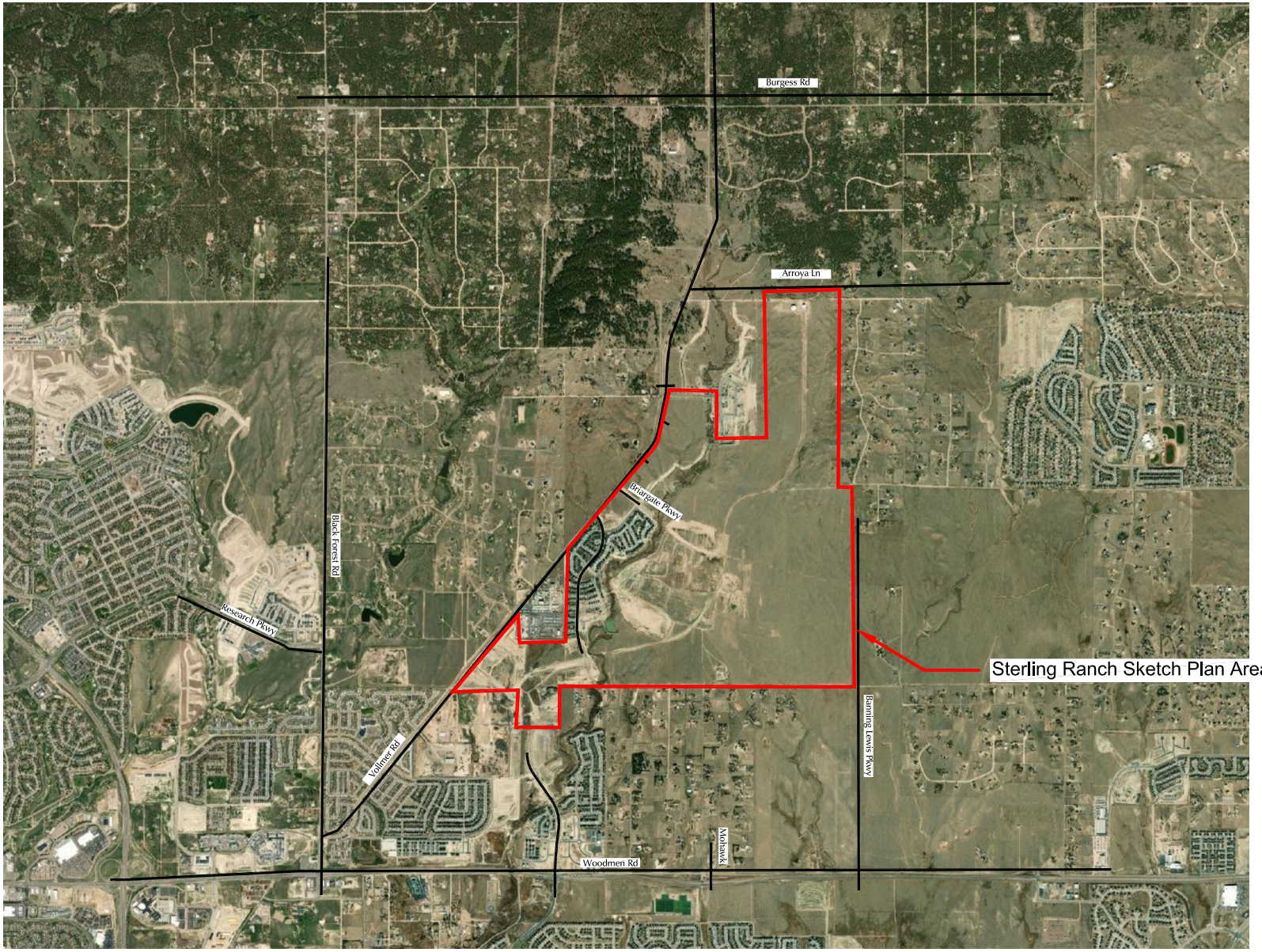

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Figure 1

Vicinity

Sterling Ranch Sketch Plan - 2023 Amendment and Rezone (LSC# S224441)

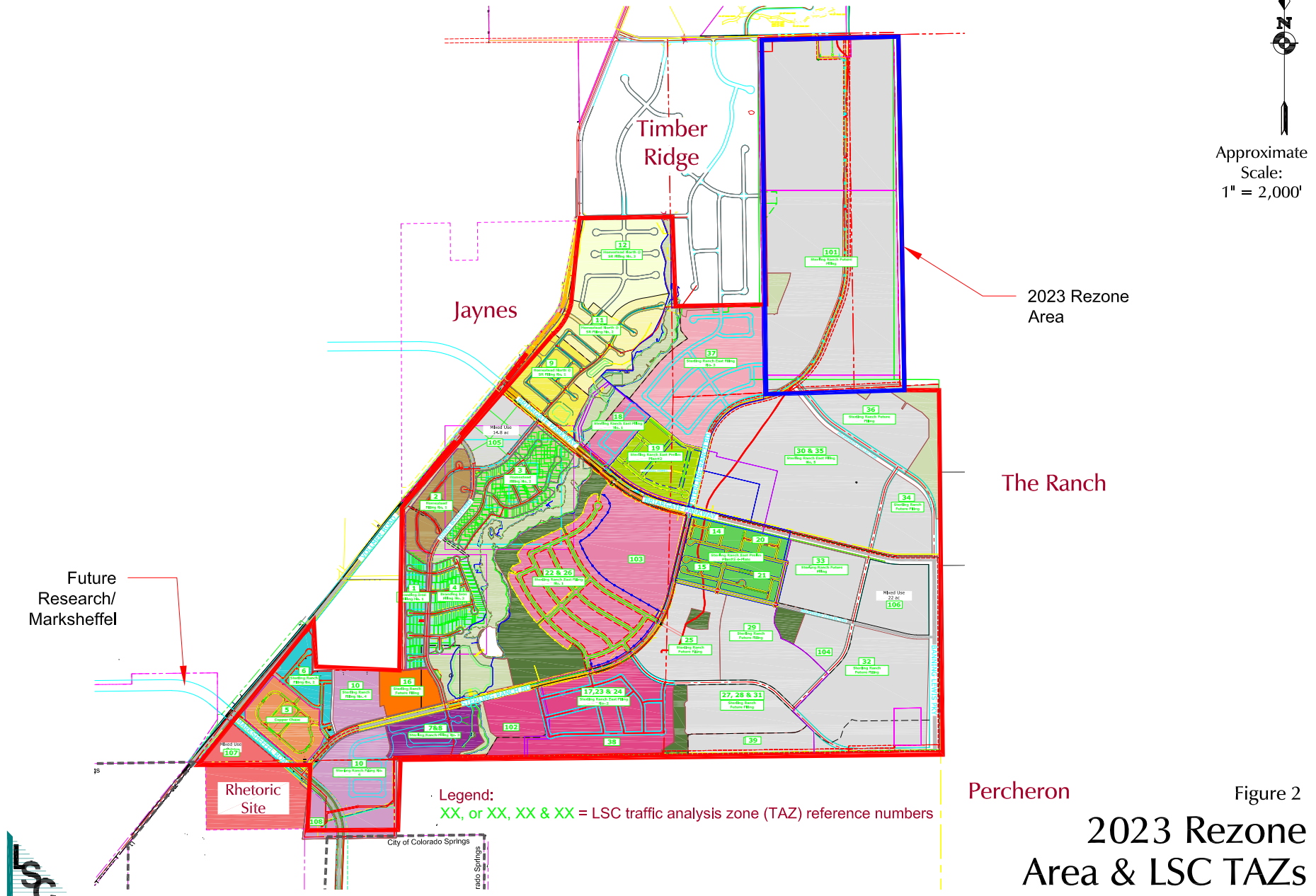

Figure 2

2023 Rezone Area & LSC TAZs

Sterling Ranch Sketch Plan - 2023 Amendment and Rezone (LSC# S224441)

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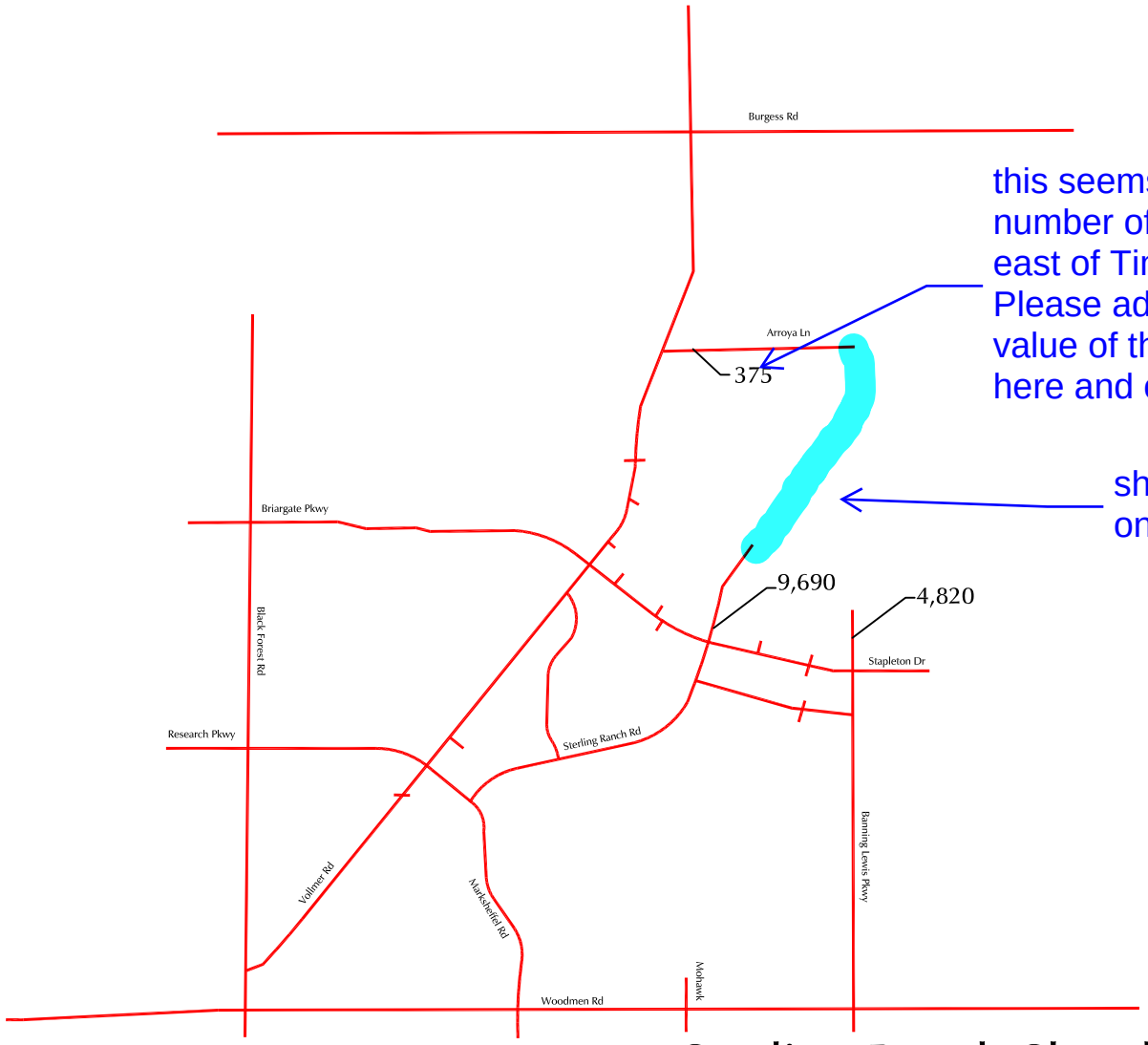

this seems low based on number of units proposed east of TimberRidge. Please add a percentage value of the added traffic here and on SRR.

show connection on all figures

Not to scale

*Note: This sensitivity analysis assumes 1,418 single family homes within the area north of Briargate Parkway and east of Sterling Ranch Road which is the maximum number of dwelling units allowed by the proposed 2023 amendment, but no changes to the number of dwelling units in other areas of the Sterling Ranch Sketch Plan. The total number of residential dwelling units within Sterling Ranch assumed in this analysis would exceed cap of 4,800 units. In order to achieve the maximum density in the 2023 amendment area the number of residential dwelling units in other areas of Sterling Ranch would need to be reduced so that the total number of units does not exceed 4,800.

Figure 3a

LEGEND:

XXX = Average Weekday Traffic (AWT)(vehicles per day)

Sterling Ranch Sketch Plan-Generated Average Weekday Traffic

Assuming Maximum Density in the 2023 Amendment Area*

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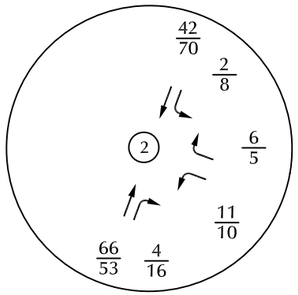

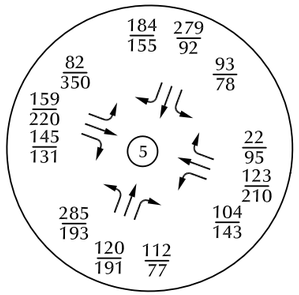

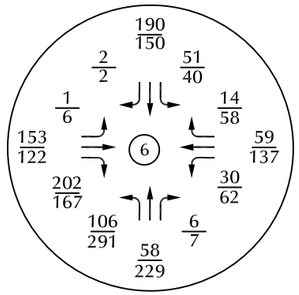

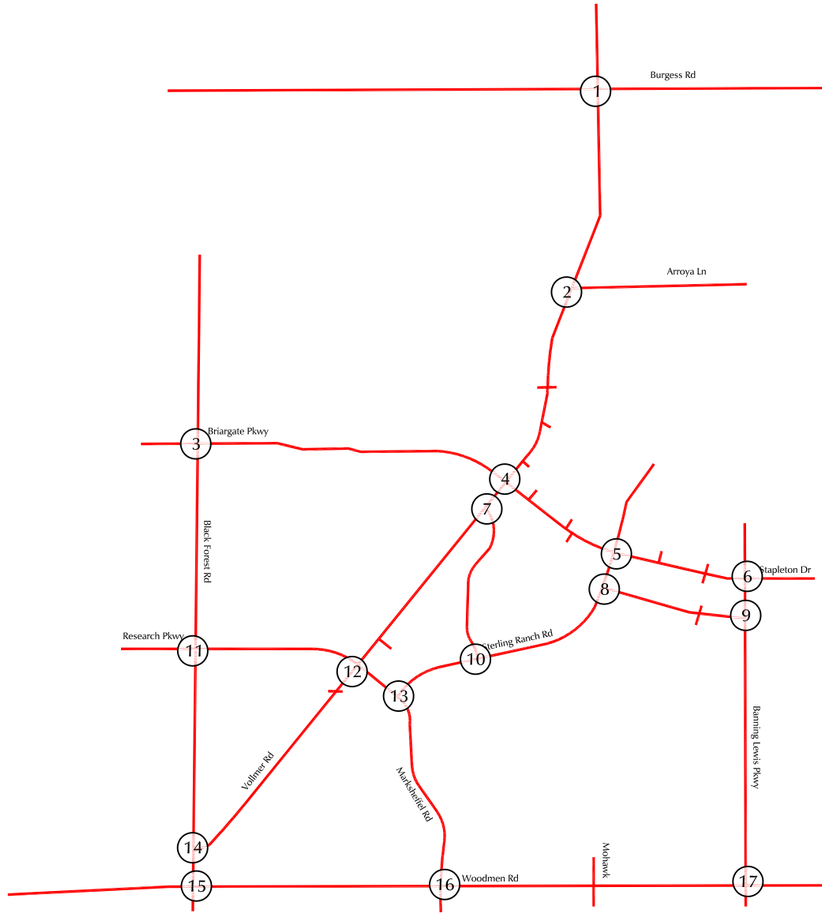

Not to scale

*Note: This sensitivity analysis assumes 1,418 single family homes within the area north of Briargate Parkway and east of Sterling Ranch Road which is the maximum number of dwelling units allowed by the proposed 2023 amendment, but no changes to the number of dwelling units in other areas of the Sterling Ranch Sketch Plan. The total number of residential dwelling units within Sterling Ranch assumed in this analysis would exceed cap of 4,800 units. In order to achieve the maximum density in the 2023 amendment area the number of residential dwelling units in other areas of Sterling Ranch would need to be reduced so that the total number of units does not exceed 4,800.

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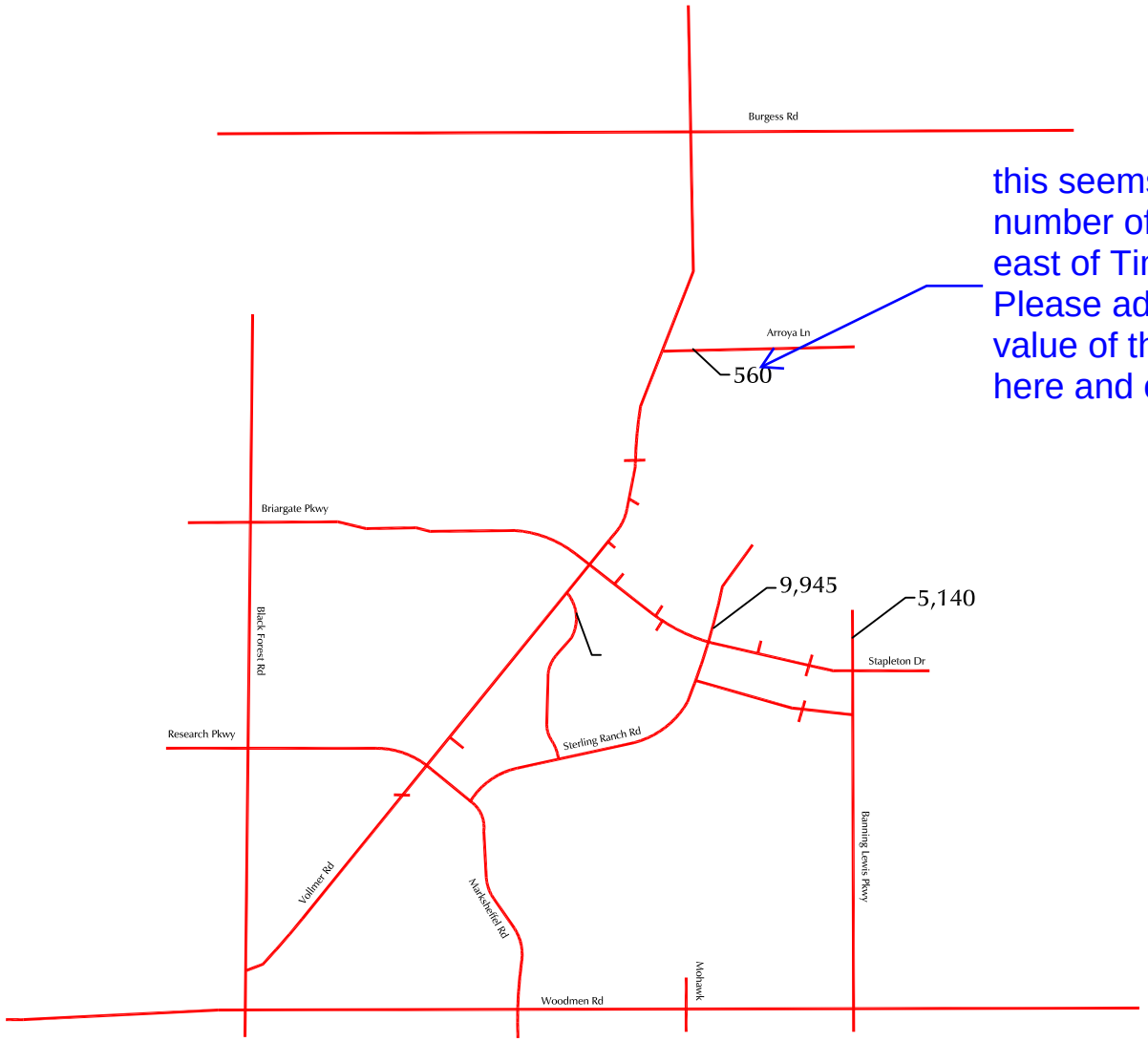
LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

Figure 3b

Sterling Ranch Sketch Plan-Generated Peak-Hour Traffic

Assuming Maximum Density in the 2023 Amendment Area*

Sterling Ranch Sketch Plan - 2023 Amendment and Rezone (LSC# S224441)



this seems low based on number of units proposed east of TimberRidge. Please add a percentage value of the added traffic here and on SRR.

Not to scale

*Note: These volumes are the sum of the Sterling Ranch Sketch Plan generated traffic volumes assuming maximum density in the area north of Briargate Parkway and east of Sterling Ranch Road (from Figure 3a) plus the 2042 baseline traffic volumes taken from Figure 6a of the *Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study (MTIS)*, by LSC Transportation Consultants, March 2023. These volumes should be compared to the corresponding impacted street segment volumes shown on Figure 10a of the March 2023 MTIS.

LEGEND:

XXX = Average Weekday Traffic (AWT)(vehicles per day)

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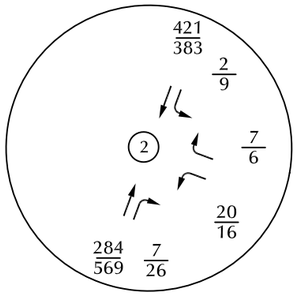
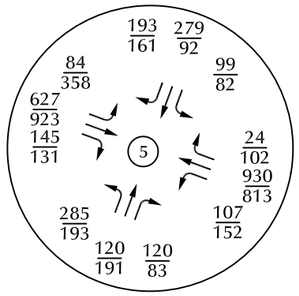
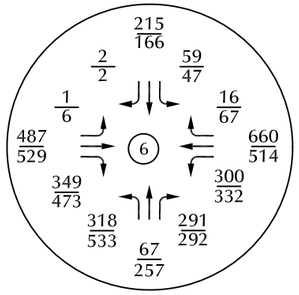
Figure 4a

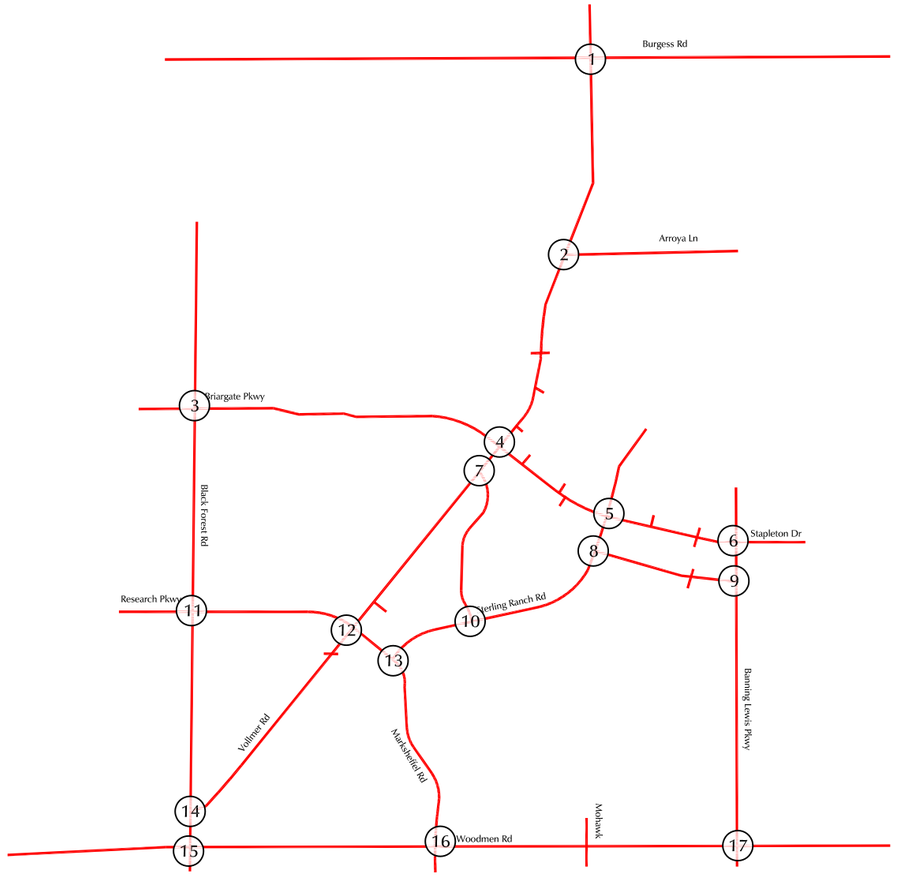
Rezone Area Sensitivity Analysis* Average Weekday Traffic

Sterling Ranch Sketch Plan - 2023 Amendment and Rezone (LSC# S224441)









Not to scale

*Note: These volumes are the sum of the Sterling Ranch Sketch Plan generated traffic volumes assuming maximum density in the area north of Briargate Parkway and east of Sterling Ranch Road (from Figure 3b) plus the 2042 baseline traffic volumes taken from Figure 6b of the *Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study (MTIS)*, by LSC Transportation Consultants, March 2023. These volumes should be compared to the corresponding impacted intersection volumes shown on Figure 10b of the March 2023 MTIS.

LEGEND: $\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

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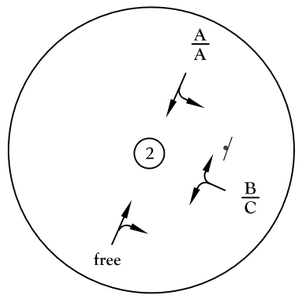
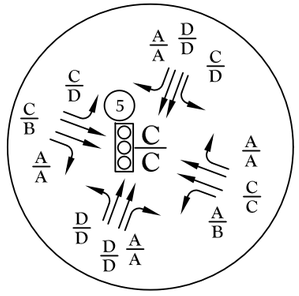
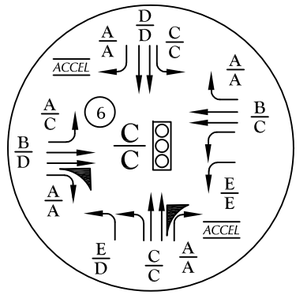
Figure 4b

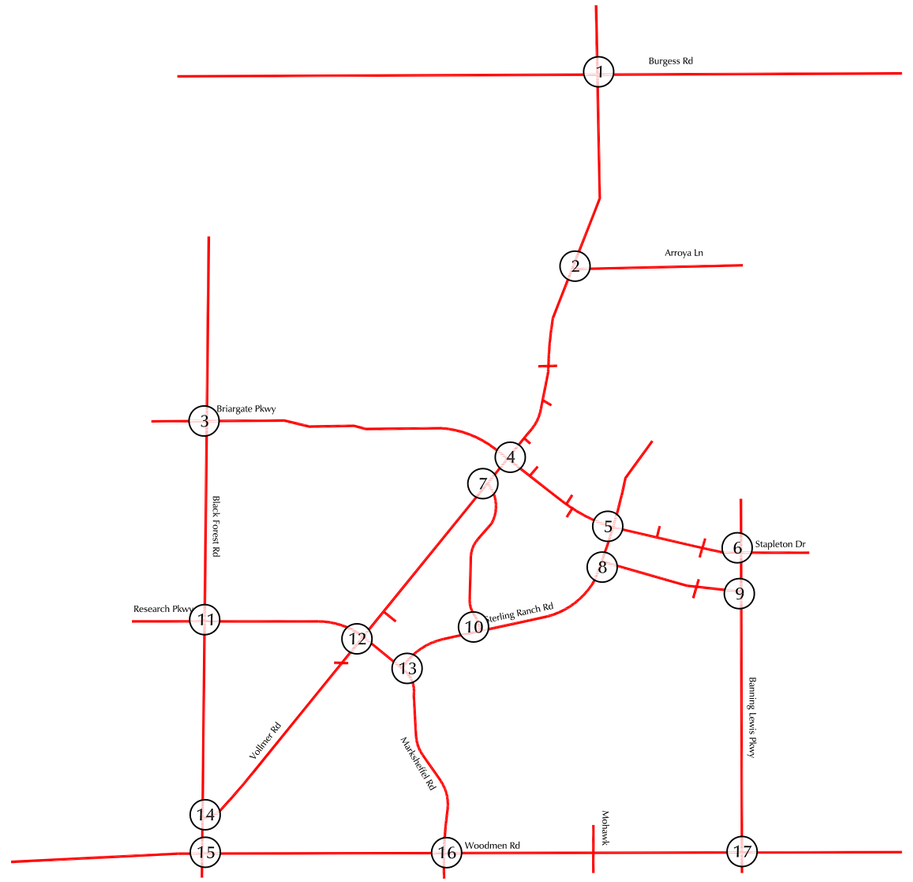
Rezone Area Sensitivity Analysis* Peak-Hour Traffic

Sterling Ranch Sketch Plan - 2023 Amendment and Rezone (LSC# S224441)









Not to scale

*Note: The Level of Service Analysis results at these intersections should be compared to the corresponding Level of Service results at the impacted intersections shown on Figure 10c in the *Sterling Ranch Sketch Plan Amendment Master Traffic Impact Study (MTIS)*, by LSC Transportation Consultants, March 2023.

LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

⊢ = Stop Sign

= Roundabout

= Traffic Signal

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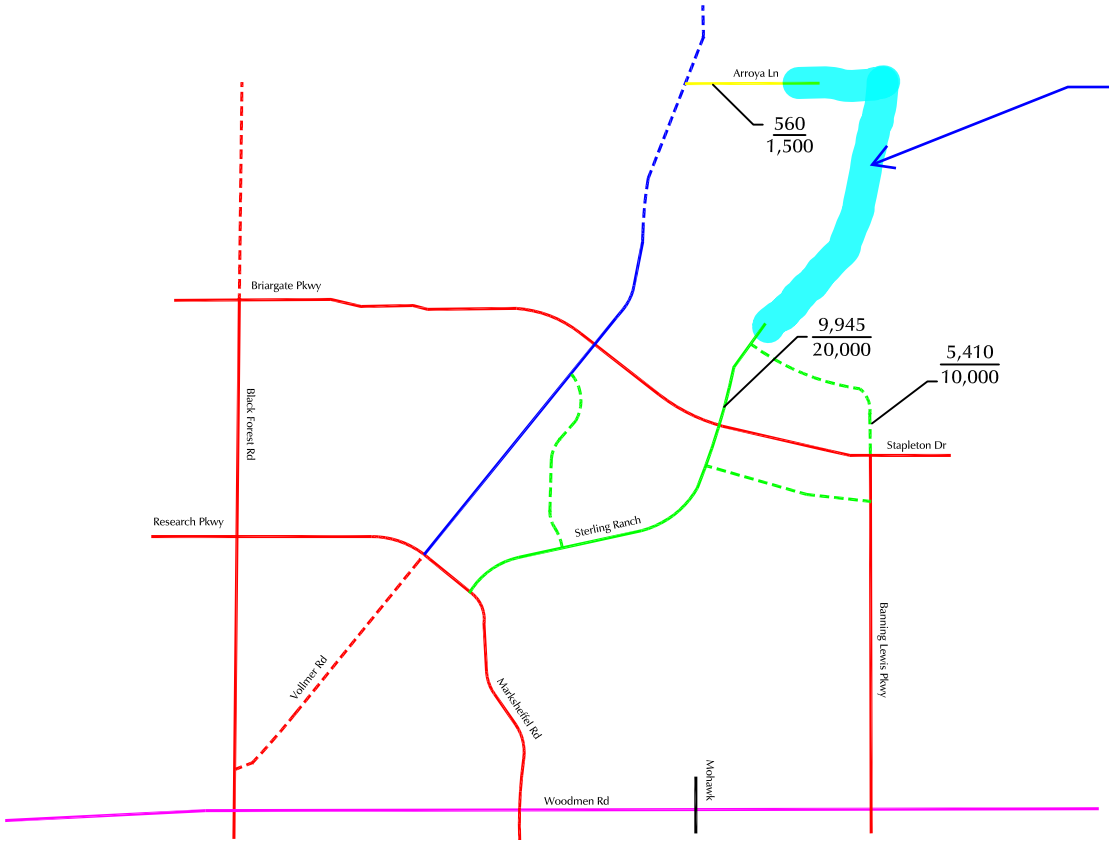
Figure 4c

Rezone Area Sensitivity Analysis* Lane Geometry, Traffic Control, and Level of Service

Sterling Ranch Sketch Plan - 2023 Amendment and Rezone (LSC# S224441)



Not to scale

LEGEND:

$\frac{XX,XXX}{XX,XXX} = \frac{\text{Projected Average Daily Traffic*}}{\text{Design Average Daily Traffic}}$

*Assuming 1,400 single family homes in the 2023 amendment area

- 6-Lane Urban Expressway
- 4-Lane Urban Principal Arterial
- 4-Lane Principal Arterial (City of Colorado Springs Connect COS Plan)
- 4-Lane Urban Minor Arterial (El Paso County MTCP)
- 2-Lane Rural Minor Arterial
- Urban Non-residential Collector
- Urban Residential Collector
- Rural Minor Collector

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Figure 5

Proposed Roadway Functional Classification

Sterling Ranch Sketch Plan - 2023 Amendment and Rezone (LSC# S224441)

Levels of Service

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Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	7	284	7	2	421
Future Vol, veh/h	20	7	284	7	2	421
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	7	299	7	2	443

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	750	303	0	0	306	0
Stage 1	303	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	379	737	-	-	1255	-
Stage 1	749	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	737	-	-	1255	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	643	-	-	-	-	-

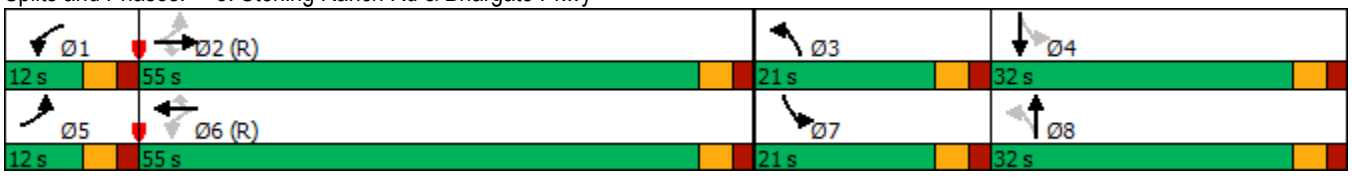
Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	433	1255	-
HCM Lane V/C Ratio	-	-	0.066	0.002	-
HCM Control Delay (s)	-	-	13.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	627	145	107	930	24	285	120	120	99	279	193
Future Volume (vph)	84	627	145	107	930	24	285	120	120	99	279	193
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	25.0		10.0	25.0	
Total Split (s)	12.0	55.0	55.0	12.0	55.0	55.0	21.0	32.0		21.0	32.0	
Total Split (%)	10.0%	45.8%	45.8%	10.0%	45.8%	45.8%	17.5%	26.7%		17.5%	26.7%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effct Green (s)	56.9	50.1	50.1	57.1	50.2	50.2	47.5	33.0	120.0	37.2	27.2	120.0
Actuated g/C Ratio	0.47	0.42	0.42	0.48	0.42	0.42	0.40	0.28	1.00	0.31	0.23	1.00
v/c Ratio	0.39	0.45	0.20	0.33	0.66	0.03	0.84	0.25	0.08	0.24	0.70	0.13
Control Delay	20.2	26.3	4.1	9.6	20.1	0.8	48.6	36.3	0.1	25.0	52.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	26.3	4.1	9.6	20.1	0.8	48.6	36.3	0.1	25.0	52.6	0.2
LOS	C	C	A	A	C	A	D	D	A	C	D	A
Approach Delay		21.9			18.6			34.7			30.1	
Approach LOS		C			B			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 63 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 79.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Sterling Ranch Rd & Briargate Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	487	349	300	660	16	318	67	291	59	215	2
Future Volume (vph)	1	487	349	300	660	16	318	67	291	59	215	2
Turn Type	pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	Free	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free			6			Free	4		4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	15.0		8.0	15.0	15.0	8.0	10.0		8.0	10.0	10.0
Minimum Split (s)	13.0	20.0		20.0	20.0	20.0	13.0	15.0		13.0	15.0	15.0
Total Split (s)	13.0	42.0		28.0	57.0	57.0	29.0	35.0		15.0	21.0	21.0
Total Split (%)	10.8%	35.0%		23.3%	47.5%	47.5%	24.2%	29.2%		12.5%	17.5%	17.5%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	Max	Max
Act Effct Green (s)	51.7	43.7	120.0	16.3	62.4	62.4	16.9	33.9	120.0	31.7	23.1	23.1
Actuated g/C Ratio	0.43	0.36	1.00	0.14	0.52	0.52	0.14	0.28	1.00	0.26	0.19	0.19
v/c Ratio	0.00	0.40	0.23	0.68	0.38	0.02	0.69	0.07	0.19	0.16	0.33	0.00
Control Delay	10.0	17.3	0.3	56.8	18.7	0.1	55.5	34.0	0.3	26.5	44.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	17.3	0.3	56.8	18.7	0.1	55.5	34.0	0.3	26.5	44.4	0.0
LOS	A	B	A	E	B	A	E	C	A	C	D	A
Approach Delay		10.2			30.1			29.6			40.2	
Approach LOS		B			C			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 25.0	Intersection LOS: C
Intersection Capacity Utilization 59.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Banning Lewis Pkwy & Briargate Pkwy

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	6	569	26	9	383
Future Vol, veh/h	16	6	569	26	9	383
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	6	599	27	9	403

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1034	613	0	0	626	0
Stage 1	613	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	257	492	-	-	956	-
Stage 1	541	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	254	492	-	-	956	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	654	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	293	956	-
HCM Lane V/C Ratio	-	-	0.079	0.01	-
HCM Control Delay (s)	-	-	18.3	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	923	131	152	813	102	193	191	83	82	92	161
Future Volume (vph)	358	923	131	152	813	102	193	191	83	82	92	161
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	10.0	25.0		10.0	25.0	
Total Split (s)	22.0	68.0	68.0	12.0	58.0	58.0	15.0	30.0		10.0	25.0	
Total Split (%)	18.3%	56.7%	56.7%	10.0%	48.3%	48.3%	12.5%	25.0%		8.3%	20.8%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	75.0	63.0	63.0	60.5	53.5	53.5	35.0	27.0	120.0	25.0	20.0	120.0
Actuated g/C Ratio	0.62	0.52	0.52	0.50	0.45	0.45	0.29	0.22	1.00	0.21	0.17	1.00
v/c Ratio	0.88	0.52	0.15	0.52	0.54	0.14	0.57	0.48	0.05	0.33	0.31	0.11
Control Delay	38.3	19.9	2.8	18.8	26.1	5.3	41.4	45.9	0.1	37.3	47.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	19.9	2.8	18.8	26.1	5.3	41.4	45.9	0.1	37.3	47.1	0.1
LOS	D	B	A	B	C	A	D	D	A	D	D	A
Approach Delay		23.0			23.1			35.9			22.2	
Approach LOS		C			C			D			C	

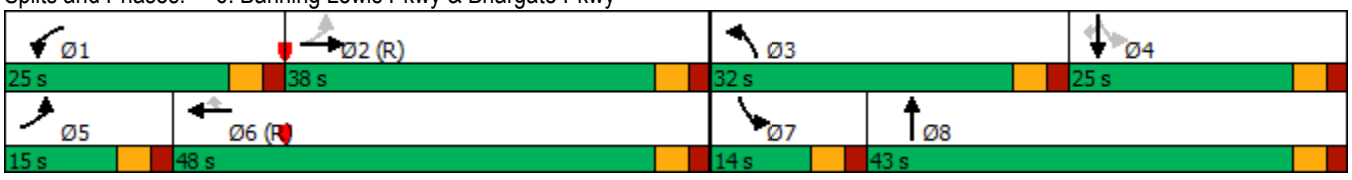
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 24.8	Intersection LOS: C
Intersection Capacity Utilization 86.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Sterling Ranch Rd & Briargate Pkwy

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	529	473	332	514	67	533	257	292	47	166	2
Future Volume (vph)	6	529	473	332	514	67	533	257	292	47	166	2
Turn Type	pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	Free	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free			6			Free	4		4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	15.0		8.0	15.0	15.0	8.0	10.0		8.0	10.0	10.0
Minimum Split (s)	15.0	20.0		20.0	20.0	20.0	13.0	15.0		13.0	15.0	15.0
Total Split (s)	15.0	38.0		25.0	48.0	48.0	32.0	43.0		14.0	25.0	25.0
Total Split (%)	12.5%	31.7%		20.8%	40.0%	40.0%	26.7%	35.8%		11.7%	20.8%	20.8%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	Max		None	Max	Max
Act Effct Green (s)	44.0	36.0	120.0	17.0	55.4	55.4	24.0	41.4	120.0	31.2	23.0	23.0
Actuated g/C Ratio	0.37	0.30	1.00	0.14	0.46	0.46	0.20	0.34	1.00	0.26	0.19	0.19
v/c Ratio	0.02	0.52	0.31	0.72	0.33	0.09	0.82	0.22	0.19	0.15	0.26	0.00
Control Delay	25.3	54.3	0.6	57.8	22.0	0.2	54.0	33.2	0.3	23.3	43.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	54.3	0.6	57.8	22.0	0.2	54.0	33.2	0.3	23.3	43.4	0.0
LOS	C	D	A	E	C	A	D	C	A	C	D	A
Approach Delay		28.9			33.4			34.6			38.7	
Approach LOS		C			C			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 32.7	Intersection LOS: C
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Banning Lewis Pkwy & Briargate Pkwy



Sterling Ranch Sketch Plan Amendment 2023

STERLING RANCH SKETCH PLAN AMENDMENT

LAND USE LEGEND:

	31 AC. RESIDENTIAL: 2.5 DU/AC,	9 D.U.
	33 AC. RESIDENTIAL: 0.5 DU/AC,	39 D.U.
	65 AC. RESIDENTIAL: 2 DU/AC,	112 D.U.
	922 A.C. RESIDENTIAL: 3-5 DU/AC,	2,766 D.U.
	86 AC. RESIDENTIAL: 5-8 DU/AC,	600 D.U.
	47 AC. MIXED USE 8-25 DU/AC *	600 D.U.
	60 AC. ELEMENTARY / K-8 SCHOOL	
	18 AC. NEIGHBORHOOD PARK	
	28 AC. COMMUNITY PARK	
	62 AC. OPEN SPACE / PARK / GREENWAY	
	40 AC. OPEN SPACE / BUFFER	
	10 AC. UTILITY PARCEL	
	5 AC. INDUSTRIAL	
	37 AC. RIGHT-OF-WAY	

TOTAL: 1,444 AC. TOTAL: 4,800 D.U. Max

* COMMERCIAL/ MULTIFAMILY UP TO 25 DU/AC

LEGAL DESCRIPTION:

THE WEST HALF OF THE WEST HALF OF THE EAST HALF AND EAST HALF OF THE WEST HALF AND THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 27; THE EAST HALF OF THE SOUTHEAST QUARTER AND THAT PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER LYING SOUTH AND EAST OF THE COUNTY ROAD KNOWN AS VOLLMER ROAD, OF SECTION 28; THE WEST HALF OF THE EAST HALF AND THE WEST HALF OF SECTION 34; THE EAST HALF AND THE EAST HALF OF THE SOUTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 33, AND ALL THAT PART OF THE NORTHWEST QUARTER OF SECTION 33 LYING SOUTH AND EAST OF THE COUNTY ROAD KNOWN AS VOLLMER ROAD, EXCEPT THAT PORTION OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 33 LYING SOUTH AND EAST OF SAID COUNTY ROAD AS DEEDED TO COLORADO INTERSTATE GAS COMPANY BY WARRANTY DEED RECORDED IN BOOK 1173 AT PAGE 359; AND THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER LYING SOUTHEAST OF THE COUNTY ROAD KNOWN AS VOLLMER ROAD, OF SECTION 32, EXCEPT THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 32 DEEDED TO J. MARCUS BROWN BY TRUSTEES' DEED RECORDED IN BOOK 3292 AT PAGE 168; ALL IN TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO. ALL THAT PORTION OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 28, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO LYING SOUTH AND EAST OF THE COUNTY ROAD (VOLLMER ROAD), ALSO: THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 4, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, LYING SOUTHERLY OF AN EXISTING EAST- WEST FENCE AS DESCRIBED IN SPECIAL WARRANTY DEED RECORDED DECEMBER 23, 2004 AT RECEPTION NO. 204209417, COUNTY OF EL PASO, STATE OF COLORADO, ALSO: THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., LYING SOUTHEASTERLY OF THE PUBLIC ROAD KNOWN AS VOLLMER ROAD, EL PASO COUNTY, COLORADO, AND CONTAINING 1443.695 ACRES MORE OR LESS.

OWNERS:

SR LAND, LLC.
20 BOULDER CRESCENT STREET, SUITE 102
COLORADO SPRINGS, CO 80903-3300

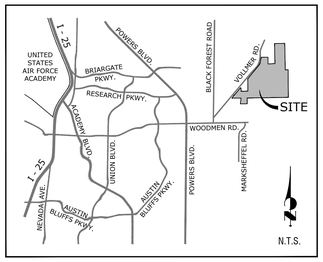
CLASSIC SRJ LAND, LLC
2138 FLYING HORSE CLUB DRIVE
COLORADO SPRINGS, CO 80921

CHALLENGER COMMUNITIES, LLC.
8605 EXPLORER DRIVE, SUITE 250
COLORADO SPRINGS, CO 80920-1013

SYMBOL LEGEND:

- ROAD
- FULL MOVEMENT ACCESS POINT
- 3/4 MOVEMENT
- RI/RO
- 100-YEAR FLOODPLAIN
- TRAIL
- BUFFER / OS TRAIL CORRIDOR / EASEMENT
- NEIGHBORHOOD PARK
- X,XXX' ACCESS SPACING (FEET)

VICINITY MAP:



Overall Development Dwelling Unit Table

	Homestead Fil 1 SF 04-029	Banding Iron Fil 1 SF-06-017	Homestead Fil 2 SF 19-004	Banding Iron Fil 2 SF-19-018	Sterling Ranch Fil 2 SF-20-015	Total Entitled Units	Remaining Developable Units	Maximum Dwelling Units
Dwelling Units	72	51	104	75	49	351	4449	4800

ROAD CLASSIFICATION TABLE

Roadway	Existing	2040 MTCP	2060 MTCP/CPP	Sterling Ranch Proposed
Vollmer Road	2 lane Collector - 60'	4 lane Minor - 100'	4 lane Minor - 100'	4 lane Minor - 100'
Briargate Parkway		4 lane Principal - 130'	4 lane Principal - 130'	4 lane Principal - 130'
Banning Lewis Ranch Parkway		4 lane Principal - 130'	4 lane Principal - 130'	4 lane Principal - 130'
Marksheffel Road	2 lane Principal -	4 lane Principal - 130'	4 lane Principal - 130'	TBD *

*A deviation is approved for Marksheffel Road to be built to the City of Colorado Springs standards.

Land Planning
Landscape Architecture
Urban Design

NES

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

www.nescolorado.com

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STERLING RANCH

SKETCH PLAN AMENDMENT #3

MORLEY-BENTLEY INVESTMENTS, LLC.

DATE: 09/29/2023
PROJECT MGR: A. BARLOW
PREPARED BY: B. PERKINS

AMENDMENT #3

DATE:	BY:	DESCRIPTION:

This sketch plan amendment (minor) for (Sterling Ranch) was approved for filing by the El Paso County, Colorado Planning and Community Development Director on the _____ day of _____ 20__, subject to any notes or conditions specified hereon. All previous Conditions of Approval and Notations apply.

Planning and Community Development Director

NORTH

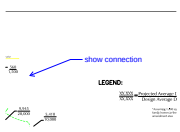
0 250' 500' 1000' 1500'

SCALE: 1"=500'

P:\Classic\Sterling Ranch North\Drawings\Planning\MPLSR SKP AMEND 23.dwg [SKP] 9/28/2023 11:44:21 AM bperkins

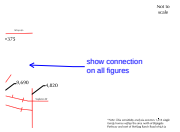
V1_ TIS.pdf Markup Summary

Callout (5)



Subject: Callout
Page Label: 18
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:05:36 PM
Status:
Color:
Layer:
Space:

show connection

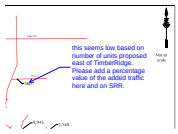


Subject: Callout
Page Label: 13
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:08:14 PM
Status:
Color:
Layer:
Space:

show connection on all figures

Subject: Callout
Page Label: 13
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:08:12 PM
Status:
Color:
Layer:
Space:

this seems low based on number of units proposed east of TimberRidge. Please add a percentage value of the added traffic here and on SRR.



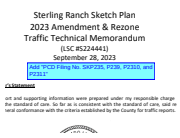
Subject: Callout
Page Label: 15
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:10:20 PM
Status:
Color:
Layer:
Space:

this seems low based on number of units proposed east of TimberRidge. Please add a percentage value of the added traffic here and on SRR.

Subject: Callout
Page Label: 4
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:17:35 PM
Status:
Color:
Layer:
Space:

Address how Sterling Ranch Road will be connected to Arroya Lane and the anticipated classification of Arroya, and with the additional density in this area how this increases the possibility of the ultimate east-west connection of Arroya Lane along the north side of Sterling Ranch (if the property to the north subdivides).

Text Box (1)



Subject: Text Box
Page Label: 1
Author: Carlos
Date: 11/2/2023 9:54:24 AM
Status:
Color:
Layer:
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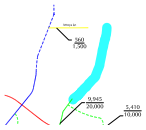
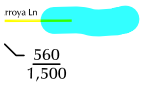
Add "PCD Filing No. SKP235, P239, P2310, and P2311"

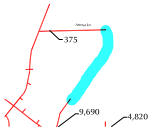
(3)



Subject:
Page Label: 18
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:05:22 PM
Status:
Color:
Layer:
Space:



Subject:
Page Label: 18
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:05:26 PM
Status:
Color:
Layer:
Space:



Subject:
Page Label: 13
Author: Jeff Rice - EPC Engineering Review
Date: 11/1/2023 3:06:37 PM
Status:
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Space: