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Retreat at TimberRidge Filing No. 2  
Traffic Technical Memorandum  
(LSC #S214200)  
March 26, 2021

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.

A handwritten signature in blue ink, appearing to be 'J. P.', written over a horizontal line.

3/31/2021  
Date

# Retreat at TimberRidge Filing No. 2

## Traffic Technical Memorandum

Prepared for:

Loren J. Moreland

Vice President / Project Manager

Classic Homes

6385 Corporate Drive, Suite 200

Contact: Mr. Jim Rohr

MARCH 26, 2021

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LSC Transportation Consultants

Prepared by: Kirstin D. Ferrin, P.E.

Reviewed by: Jeffrey C. Hodsdon, P.E.

LSC #S214200



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March 26, 2021

Loren J. Moreland  
Vice President / Project Manager  
Classic Homes  
6385 Corporate Drive, Suite 200

RE: Retreat at TimberRidge Filing No. 2  
El Paso County, CO  
Traffic Technical Memorandum  
LSC #S214200

Dear Mr. Moreland:

LSC Transportation Consultants, Inc. has prepared this traffic technical memorandum for the Retreat at TimberRidge Filing No. 2. As shown in Figure 1 The Retreat at TimberRidge is located generally east of Vollmer Road and south of Arroya Lane in El Paso County, Colorado. LSC prepared a traffic impact study (TIS) for the entire Retreat at TimberRidge PUD development plan dated January 25, 2018 and a traffic memorandum that addressed phasing of that development dated June 29, 2018. LSC also completed a traffic technical memorandum for Filing No. 1 dated April 3, 2020. The lot and street plan has not changed since completion of those reports. This memorandum is intended as a site-specific, final plat traffic report for the currently-proposed filing.

## REPORT CONTENTS

This report presents:

- A description of Retreat at TimberRidge filings that are currently under review, currently proposed, and planned for the future;
- The current status of other subdivisions shown on the approved PUD plan;
- The projected average weekday and peak-hour vehicle trips to be generated by the Retreat at TimberRidge Filing Nos. 1 and 2;
- The assignment of the Filing Nos. 1 and 2 projected trips to the key area intersections;
- The recommended street classifications for the internal streets within the currently-proposed Retreat at TimberRidge Filing No. 2;
- Improvements needed with Retreat at TimberRidge Filing No. 2; and
- The project's obligation to the County roadway improvement fee program.

## LAND USE AND ACCESS

The Retreat at TimberRidge Preliminary Plan area includes the 203 lots for single-family homes located east of Vollmer Road and two lots for single-family homes located west of Vollmer Road and south of Arroya Lane. Figure 2 shows the location of the approved Retreat at TimberRidge Filing No. 1, the currently-proposed Retreat at TimberRidge Filing No. 2, and future filings. The June 2018 transportation memorandum included analysis of the preliminary plan by phase. Figure 1 from that report shows the phasing plan. No changes have been made to the PUD plan since completion of that memorandum. The current status of subdivisions is discussed below.

### Current Status of Other Subdivisions Shown on the Approved PUD Plan

The approved Retreat at TimberRidge Filing No. 1 includes 70 lots for single-family homes. The location of the lots within this filing includes 11 of the 13 lots assumed in the **Preliminary Plan Phase 2 plan** and the 59 lots assumed in **Preliminary Plan Phase 3 plan** in the June 2018 transportation memorandum. Access is planned to an extension of Poco Road. The proposed easternmost north/south street segments connecting to Arroya Lane will be constructed initially as a gravel road as part of Filing 1. This gravel road will be constructed to provide an interim secondary emergency access. No improvements are planned to Arroya Lane as part of the approved Retreat at TimberRidge Filing No. 1.

The TimberRidge Estates Filing No. 1 (different from “Retreat at TimberRidge” Filing No. 1) was under review by El Paso County. However, it has now been withdrawn. These 10 lots remain part of the approved PUD plan and are shown as part of **Phase 1 of the Preliminary Plan**. With the withdrawal of the subdivision plat, although part of Phase 1 of the Preliminary Plan, there is now no current plan to develop these lots in the short term. This filing planned 10 lots for single-family homes located east of Vollmer Road and north of Arroya Lane. Access is to Arroya Lane only. LSC completed a transportation memorandum for this filing dated April 19, 2018. As discussed with County staff and Black Forest Fire District (reference revised fire commitment letter dated March 22, 2020), Arroya Lane requires no further improvements at this time.

LSC is not aware of any status updates for the two lots for single-family homes on the west side of Vollmer Road. These two lots were included in **Preliminary Plan Phase 2** in the June 2018 transportation memorandum.

### Currently-Proposed Filing No. 2

The Retreat at TimberRidge Filing No. 2 is currently proposed to include 90 lots for single-family homes. The location of the lots within this filing includes 6 of the 33 lots assumed in the **Preliminary Plan Phase 4**, 12 of the 15 lots assumed in the **Preliminary Plan Phase 5** and 72 of the 75 lots assumed in the **Preliminary Plan Phase 6**. No changes are proposed to the Filing 1 access plan with Filing 2.

## **TRIP GENERATION**

The Retreat at TimberRidge Filing No. 2 site-generated vehicle trips have been estimated using the nationally published trip-generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 1 shows the trip-generation estimates for these filings. Table 1 also shows estimates of the traffic expected to be generated by the approved Retreat at TimberRidge Filing No. 1 and by future Retreat at TimberRidge filings. The total trips generated by the Retreat at TimberRidge at buildout is consistent with the estimate shown in Table 1 of *The Retreat at TimberRidge Preliminary Plan Transportation Memorandum* dated June 29, 2018.

The Retreat at TimberRidge Filing No. 2 is expected to generate 850 vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 17 vehicles would enter and 50 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 56 vehicles would enter and 33 vehicles would exit the site.

## **TRIP DISTRIBUTION AND ASSIGNMENT**

When the estimated site trips from Table 1 are directionally distributed according to the LSC estimated short-term percentages shown in Figure 7 from the *Retreat at TimberRidge Updated Traffic Impact Analysis* dated January 25, 2018, the resulting projected site-generated traffic volumes can be determined. Figures 3 and 4 show the projected traffic volumes at the key area intersections and street segments due to the approved Retreat at TimberRidge Filing No. 1 and the currently-proposed Retreat at TimberRidge Filing No.2, respectively. Figure 3 shows the short-term Retreat at TimberRidge site-generated traffic volumes which are the sum of the volumes shown in Figures 1 and 2.

## **LONG-TERM TOTAL TRAFFIC**

Please refer to the *Retreat at TimberRidge Updated Traffic Impact Analysis* dated January 25, 2018 for the long-term peak-hour traffic volume projections and level of service analysis. The original report is for the entire Retreat at TimberRidge. No changes are projected to the results of this study.

## **SUBDIVISION STREET CLASSIFICATIONS**

Figure 2 from the June 2018 transportation memorandum showed the recommended street classifications for the internal streets within the Retreat at TimberRidge plan. The recommendations within the Filing No. 2 area are still valid.

## **ROADWAY IMPROVEMENTS**

Table 3 from the June 2018 memorandum contained a summary of needed improvements for the entire TimberRidge PUD plan by phase. A copy of this table with markups and notations is attached. The approved Retreat at TimberRidge Filing No. 1 and the currently-proposed Retreat at TimberRidge Filing No. 2 includes 160 of the 195 lots identified in that memorandum as Phases 2 through 6. TimberRidge Filing Nos 1 and 2 do not include the 10 lots shown as Preliminary Plan Phase 1 nor the two lots located west of Vollmer Road. These filings also do not include the 33 lots within Phases 4 and 5 that are adjacent to Arroya Lane which would necessitate improvements to Arroya.

All recommendations in that table are still valid. However, it is important to note that the first improvement listed, identified as “Arroya Lane Initial/Interim,” is no longer necessary in the short-term. Although this improvement is still associated with Phase 1 of the Preliminary Plan, and this area of Preliminary Plan Phase 1 will/may occur at a later date, the TimberRidge Estates Filing No. 1 application (and plans for short-term development of 10 lots shown north of Arroya Lane) has been withdrawn. The improvements specially needed with the Retreat at Timber Ridge Filing Nos. 1 and 2 have been repeated below.

- Extend Poco Road to the east including the creek crossing.
- Construct a gravel road to provide secondary emergency access through the future filings area to Arroya Lane (this gravel road would be replaced with the subdivision streets with those future filings).
- Construct a northbound right-turn deceleration lane on Vollmer Road at Poco Road. Based on a design speed of 40 miles per hour and the criteria contained in the El Paso County *Engineering Criteria Manual*, this lane should be 155 feet long plus a 160-foot taper.

### **Vollmer Road (from Poco Road South to Future Briargate Parkway)**

Vollmer Road adjacent to and south of the site is a two-lane rural roadway (without paved shoulders) with a 60' right-of-way. The section south of Poco Road is ultimately planned as a four-lane urban minor arterial. It is planned to be improved as part of the Sterling Ranch Homestead North Preliminary Plan (File No. SP208) currently under review.

## **ROADWAY IMPROVEMENT FEE PROGRAM**

This project will be required to participate in the El Paso County Road Improvement Fee Program. The Retreat at TimberRidge Filing No. 2 will join the ten-mil PID. The 2019 ten-mil PID building permit fee portion associated with this option is \$1,221 per single-family dwelling unit. Based on 90 lots, the total building permit fee would be \$109,890.

\* \* \* \* \*

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

KDF:jas

Enclosures: Table 1  
Figures 1-5  
Improvements Table – with April 2020 Notations



# Tables

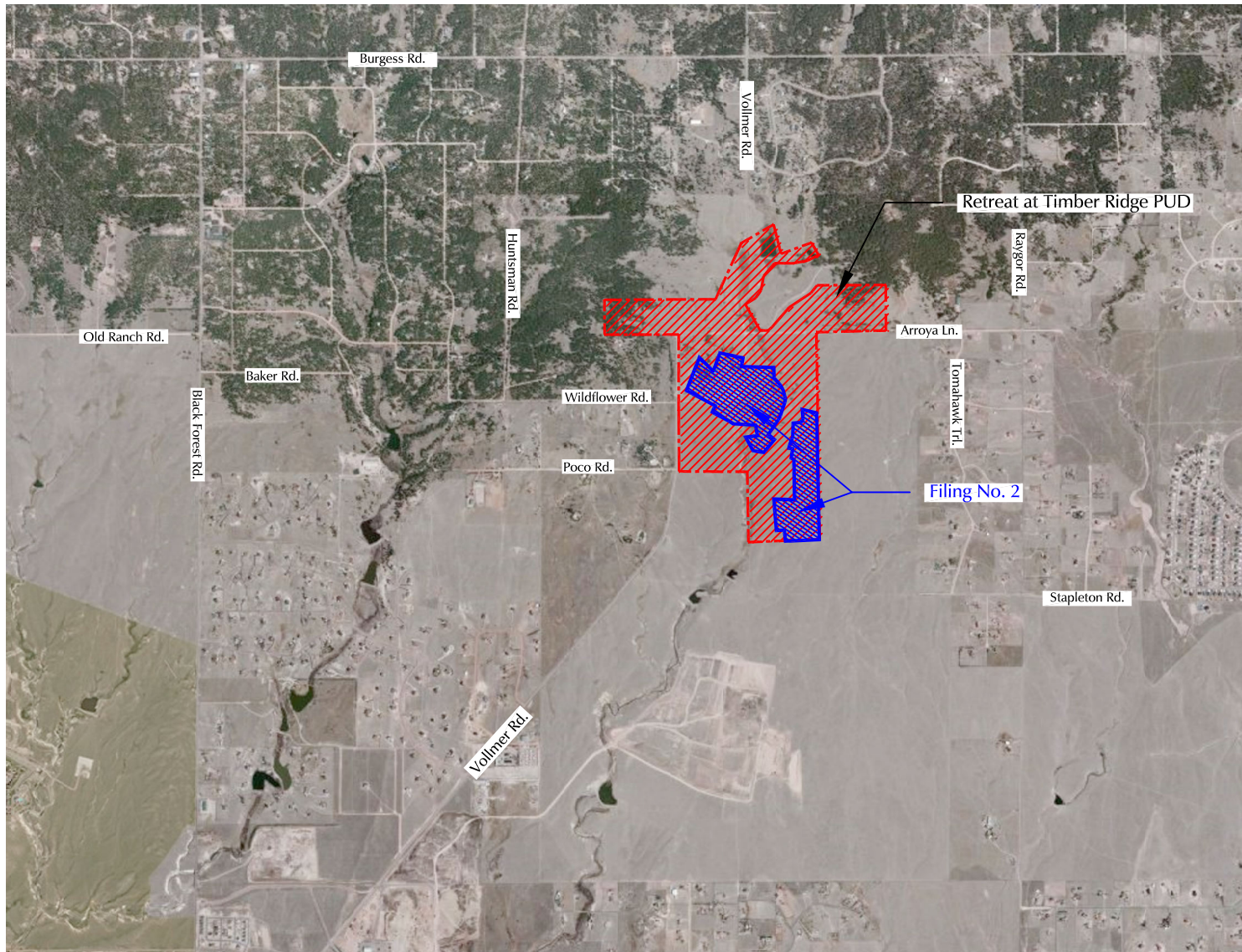
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Table 1  
Trip Generation Estimate  
Retreat at TimberRidge Filing No. 2

Phase	Land Use Code	Land Use Description	Trip Generation Units				Trip Generation Rates <sup>(1)</sup>				Filing No. 1 Trips Generated				Filing No. 2 Trips Generated				Future Trips Generated				Total Trips Generated									
			Fil 1	Fil 2	Future	Total	Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		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		In	Out	In	Out		In	Out	In	Out		In	Out			
Approved Preliminary Plan																																
1	210	Single-Family Detached Housing	0	0	10	10	DU <sup>(2)</sup>	9.44	0.19	0.56	0.62	0.37	0	0	0	0	0	0	0	0	0	94	2	6	6	4	94	2	6	6	4	
2	210	Single-Family Detached Housing	11	0	2	13	DU	9.44	0.19	0.56	0.62	0.37	104	2	6	7	4	0	0	0	0	0	19	0	1	1	1	123	2	7	8	5
3	210	Single-Family Detached Housing	59	0	0	59	DU	9.44	0.19	0.56	0.62	0.37	557	11	33	37	22	0	0	0	0	0	0	0	0	0	0	557	11	33	37	22
4	210	Single-Family Detached Housing	0	6	27	33	DU	9.44	0.19	0.56	0.62	0.37	0	0	0	0	0	57	1	3	4	2	255	5	15	17	10	312	6	18	21	12
5	210	Single-Family Detached Housing	0	12	3	15	DU	9.44	0.19	0.56	0.62	0.37	0	0	0	0	0	113	2	7	7	4	28	1	2	2	1	142	3	8	9	5
6	210	Single-Family Detached Housing	0	72	3	75	DU	9.44	0.19	0.56	0.62	0.37	0	0	0	0	0	680	13	40	45	26	28	1	2	2	1	708	14	42	47	27
			70	90	45	205	DU					661	13	39	44	26	850	17	50	56	33	425	8	25	28	16	1,935	38	114	128	75	
Future Filings (Part of the overall PUD but not a part of the currently approved Preliminary Plan)																																
	210	Single-Family Detached Housing	0	0	7	7	DU	9.44	0.19	0.56	0.62	0.37	0	0	0	0	0	0	0	0	0	66	1	4	4	3	66	1	4	4	3	
Total at Buildout of Retreat at TimberRidge			212				DU	9.44	0.19	0.56	0.62	0.37	661	13	39	44	26	850	17	50	56	33	491	10	29	32	19	2,001	39	118	132	78
Notes:																																
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)																																
(2) DU = dwelling unit																																
Source: LSC Transportation Consultants, Inc.																																
Mar-21																																

# Figures

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Approximate Scale  
Scale: 1" = 3,000'

Figure 1  
**Vicinity  
Map**

Retreat at Timber Ridge Filing No. 2 (LSC #S214200)

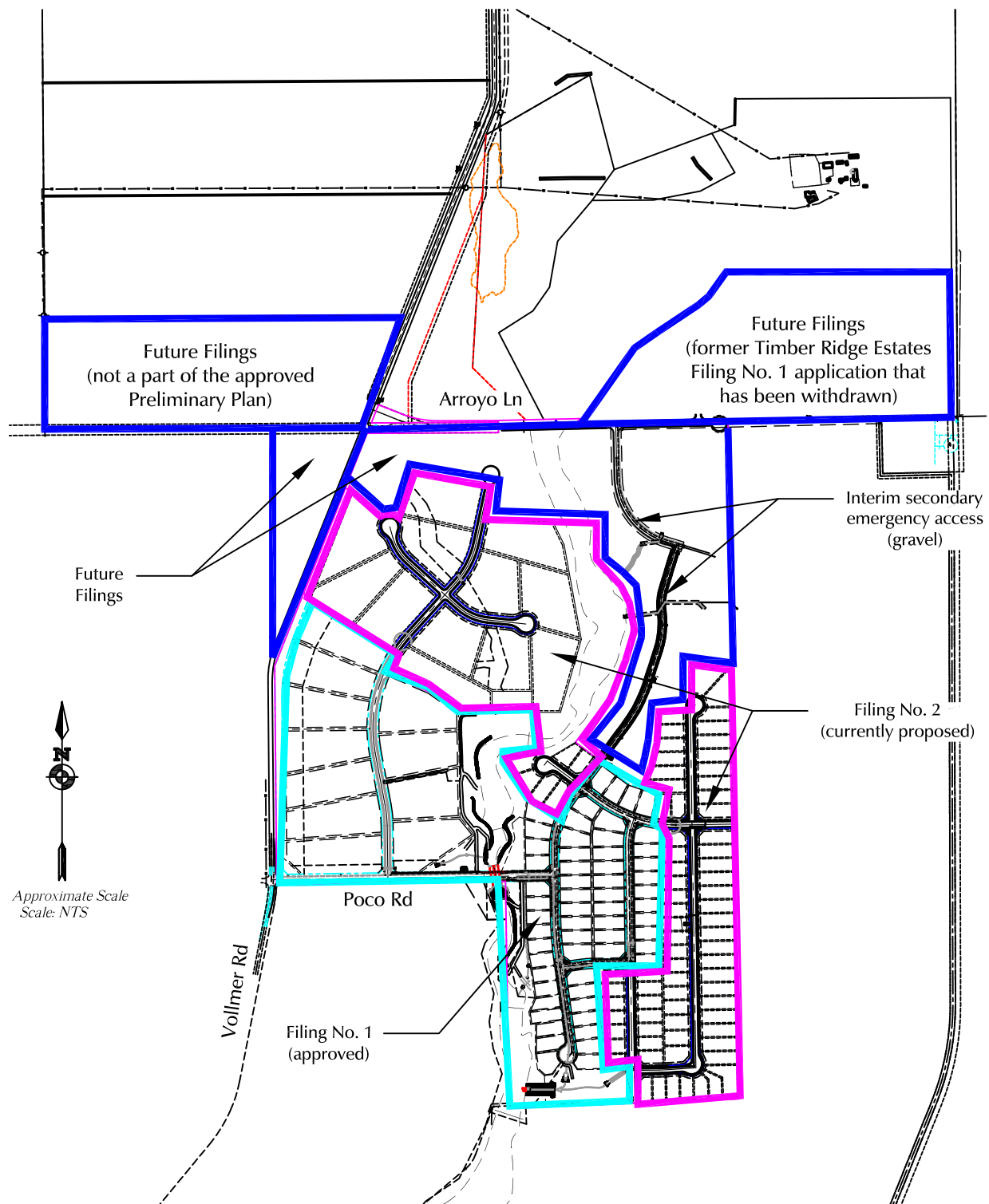


Figure 2

## Site Plan

Retreat at Timber Ridge Filing No. 2 (LSC #S214200)





LEGEND:

$\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 XXX = Average Weekday Traffic (vehicles per day)

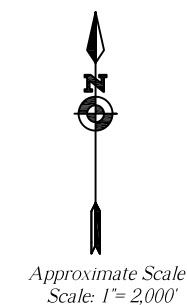
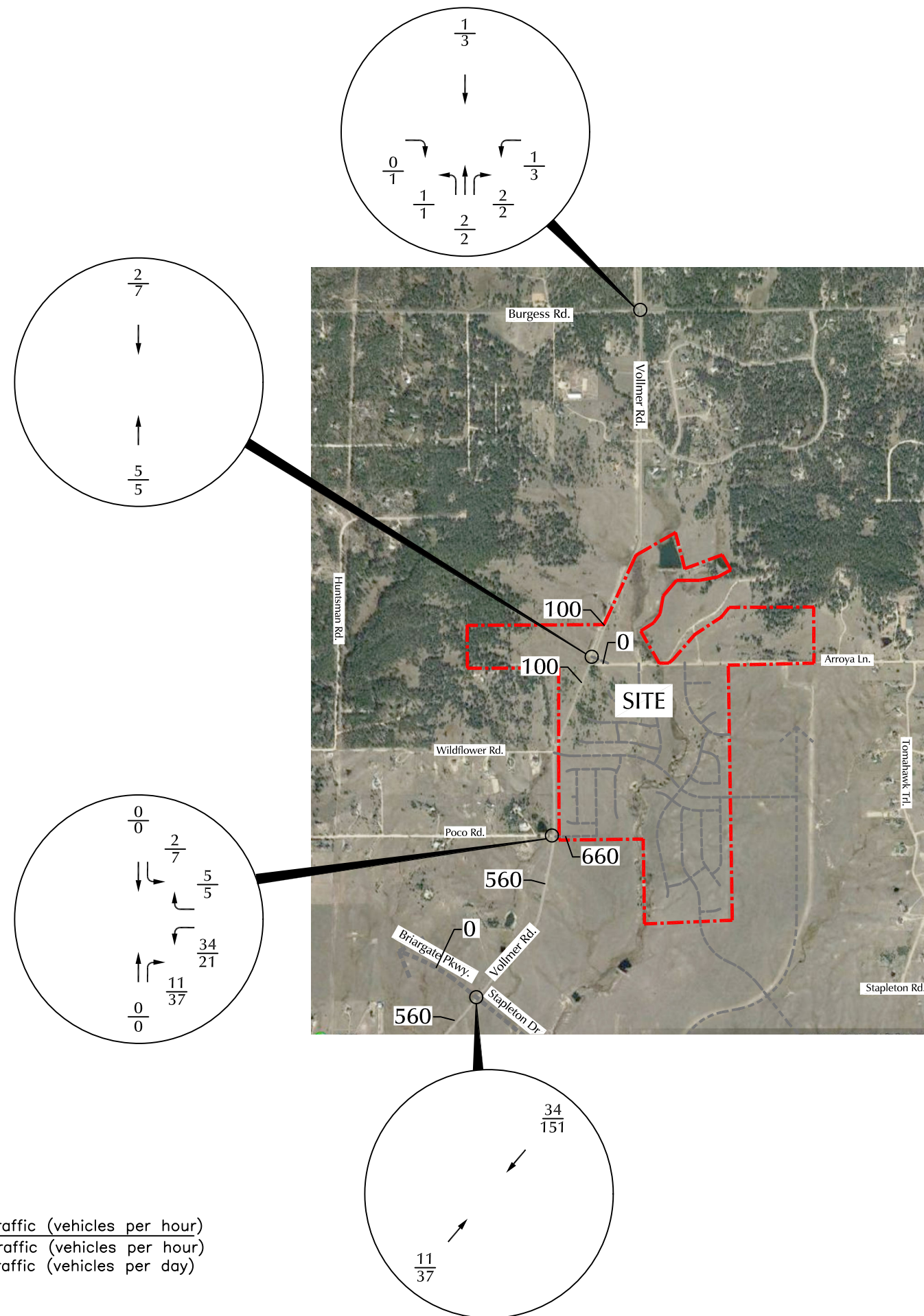


Figure 3  
**Assignment of  
 Filing No. 1 Site-Generated Traffic**  
 Retreat at Timber Ridge Filing No. 2 (LSC #S214200)



LEGEND:

$\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 XXX = Average Weekday Traffic (vehicles per day)

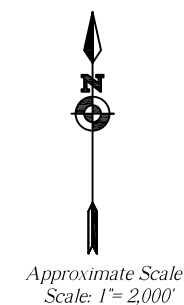
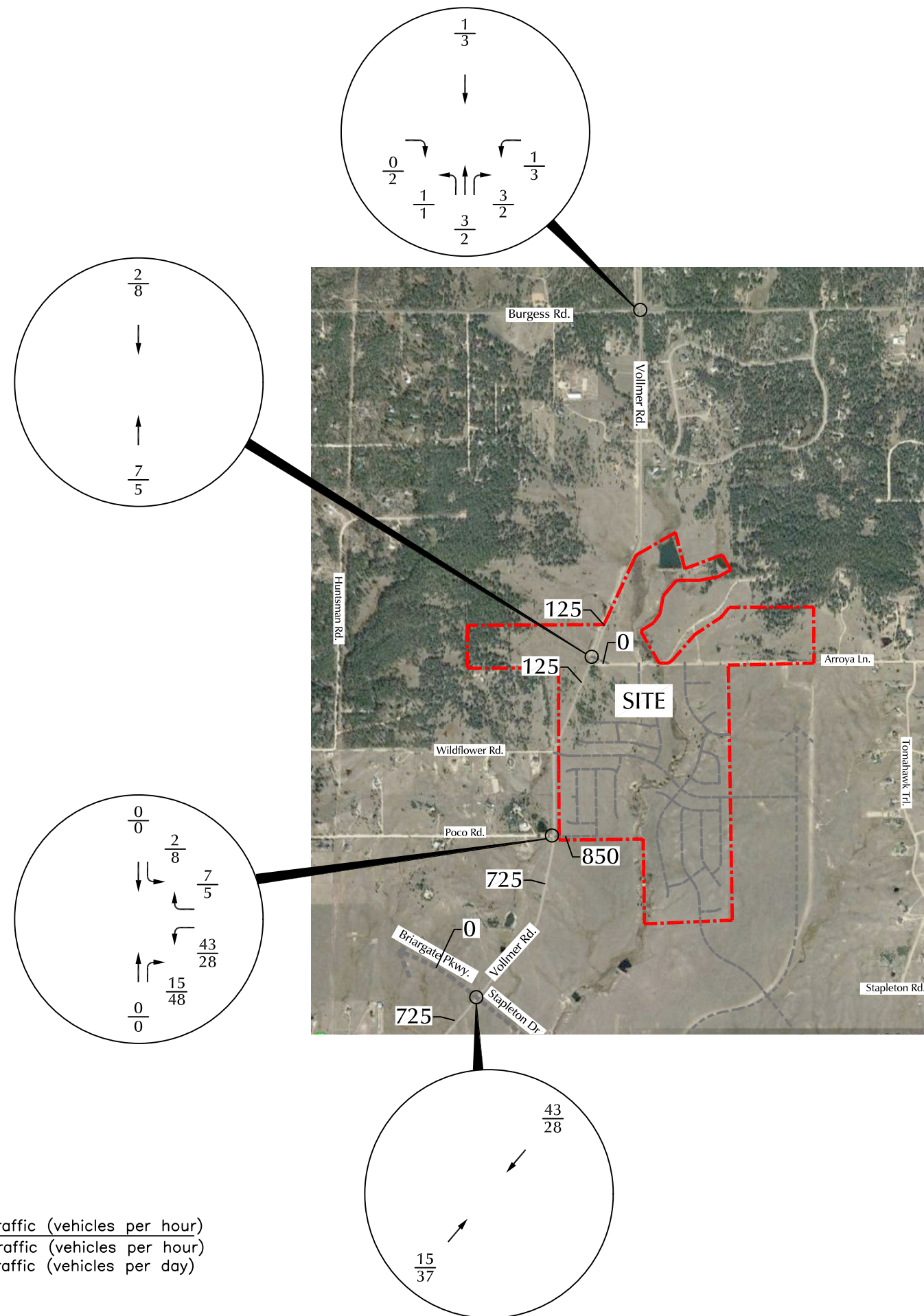


Figure 4

# Assignment of Filing No. 2 Site-Generated Traffic

Retreat at Timber Ridge Filing No. 2 (LSC #S214200)





LEGEND:  
 $\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
XXX = Average Weekday Traffic (vehicles per day)

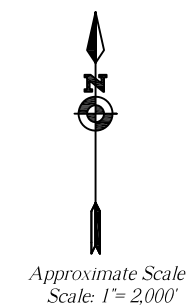
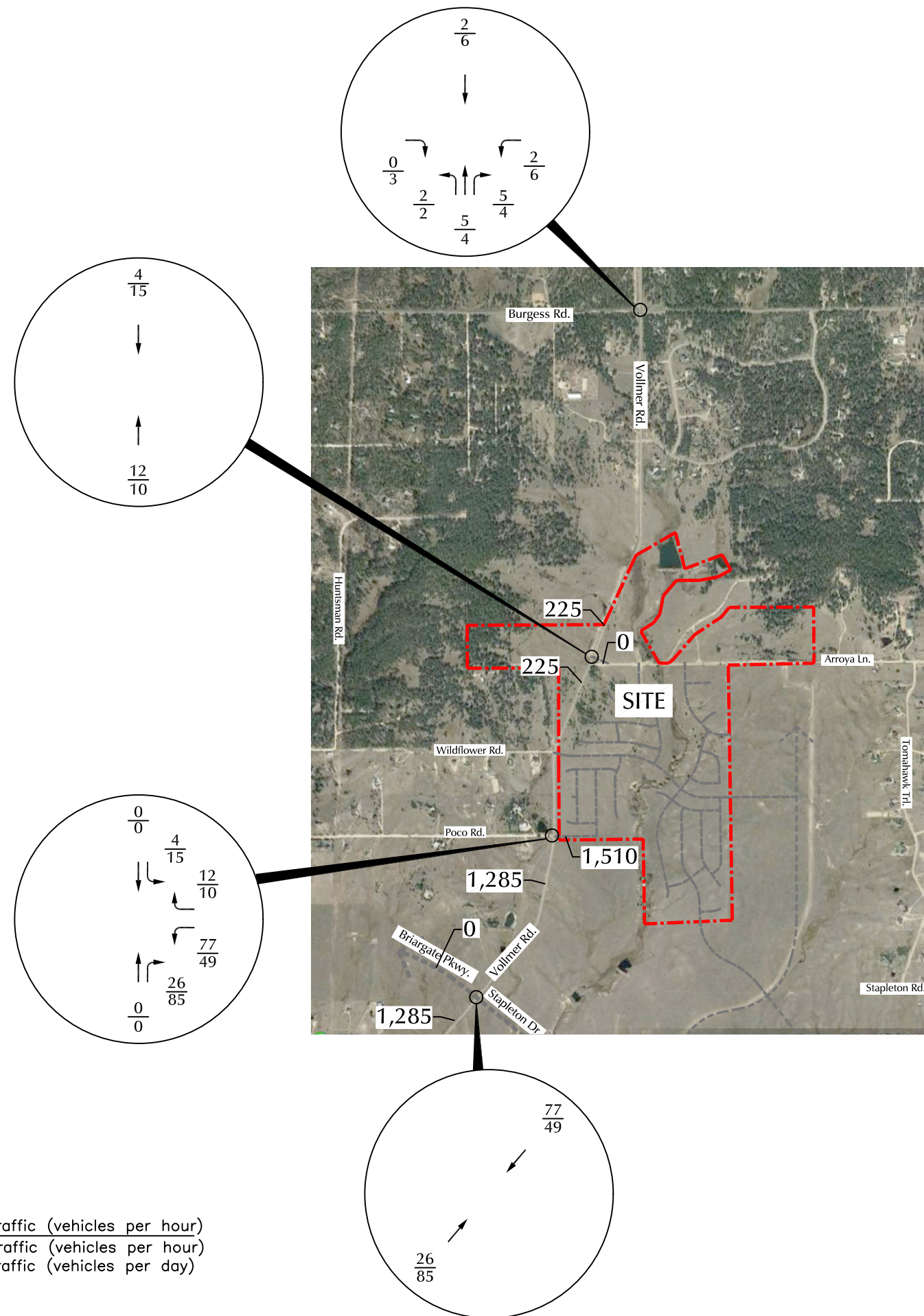


Figure 5  
**Assignment of Short-Term  
Site-Generated Traffic (Filings No.1 and 2)**  
Retreat at Timber Ridge Filing No. 2 (LSC #S214200)



## Improvements Table – with April 2020 Notations

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From:

The Retreat at Timber Ridge  
Preliminary Plan  
Transportation Memorandum

PCD File No: SP-182  
(LSC #174030)  
June 29, 2018

Table 3 Roadway Improvements Retreat at Timber Ridge Preliminary Plan		
Improvement	Timing	Responsibility <sup>(1)</sup>
Arroya Lane Initial/interim: Dedicate 80' of ROW or 40' half ROW where applicable; construct a storm sewer crossing under Arroya Lane; regrade and improve the roadway to an interim all-weather, gravel cross section for two-way traffic and emergency vehicles suitable to the County and the fire district the from Vollmer to Nature Refuge Road; move the existing temporary turnaround on the east end of Arroya Lane onsite and construct a 50-foot apron at the tie-in to Vollmer Road.	<div>Note (3/3/2021): The TimberRidge Estates Filing No. 1 plat has been withdrawn. See report narrative for details/explanation.</div> <div>Phase 1</div>	The Retreat at Timber Ridge
Upgrade Arroya Lane to a Rural Local cross section (paved). Along with this improvement, upgrade Nature Refuge Road to a Rural Local Road.	Once the average weekday traffic volume exceeds 200 vehicles per day. This is projected to occur with either Phase 4 or 5	The Retreat at Timber Ridge
Realign Arroya Lane at the intersection of Vollmer Road/Arroya Lane so Arroya intersects Vollmer at a right angle.	Phases 4 or 5	The Retreat at Timber Ridge
Extend Poco Road to the east including the creek crossing	Phases 2 and 3	The Retreat at Timber Ridge
Construct a gravel road to provide secondary emergency access through the Phase 4 area to Arroya Lane (this gravel road would be replaced with the subdivision streets in Phase 4).	Phases 2 and 3	The Retreat at Timber Ridge
Construct a northbound right-turn deceleration lane on Vollmer Road approaching Poco Road.	Design and installation with the applicable final plat(s) for The Retreat at Timber Ridge. This turn lane is projected to be required with Phase 5.	The Retreat at Timber Ridge
Potential improvement: Southbound left-turn lane at Arroyo	Evaluation with final plats. <i>Although the anticipated traffic counts do not warrant it, the County Engineer may require a southbound left-turn lane at Arroyo based on unanticipated traffic patterns</i> [from Staff Comments].	The Retreat at Timber Ridge and/or possible-but-not-currently-anticipated-future development with access via Arroya
Possible future <b>modern roundabout</b> intersection control at Poco/Vollmer as an alternative to the two-way, Stop-sign control (TWSC) shown in this TIS	Consideration of roundabout traffic control instead of TWSC could be addressed with the applicable final plat(s) for The Retreat at Timber Ridge and/or Sterling Ranch. Roundabouts would require significant circular right-of-way around the center of the intersection. Currently, additional right-of-way to accommodate a roundabout(s) is not available on the west side of Vollmer. Also, the southeast corner of the intersection is not part of this project and is not owned by this applicant. It is owned by Sterling Ranch. The consideration is that although the TIS shows better side-street level of service with the roundabout, the projected approach traffic volumes are not close to being equal on all the intersection approaches. The northbound and southbound through volumes are significantly higher than the eastbound and westbound volumes. The balance of approach volumes is an element to consider when evaluating a roundabout as a potential traffic control solution.	The Retreat at Timber Ridge and/or Sterling Ranch
As shown on the County MTCP: Vollmer Road upgrade between Poco Road and Shoup Road to a county-standard, two-lane Rural Minor Arterial.	Traffic volume estimates indicate this improvement will not be needed in the short term horizon. The 2040 MTCP indicates the Vollmer project will be needed by 2040. The 2040 MTCP shows the Vollmer upgrade "project" as Project ID U-12.	The Retreat at Timber Ridge will dedicate right-of-way to accommodate the future upgrade to Rural Minor Arterial standards (As shown in the MTCP and the Fee Study); The applicant will be required to participate in the County Road Impact Fee program.
Upgrade Vollmer Road between future Stapleton Drive and Poco Road to an Urban Minor Arterial cross section (five lanes)	Future MTCP Project ID U-12 (Note: MTCP indicates two-lane Rural Minor Arterial.)	(Sterling Ranch Metro District) MTCP Master-Planned MTCP Project ID U-12
Upgrade Vollmer Road generally between the south boundary of Sterling Ranch and future Stapleton Drive to an Urban Minor Arterial cross section (five lanes)	Designed MTCP Project ID C-13	Sterling Ranch Metro District
Upgrade Vollmer Road generally between Cowpoke Road and the south boundary of Sterling Ranch to an Urban Minor Arterial cross section (five lanes)	Designed MTCP Project ID C-13	Woodmen Heights Metro District
Construct section of Stapleton Road half section between Vollmer Road and the first Sterling Ranch access point	With development of Phase 1 of Sterling Ranch - Designed MTCP Project ID N-5	Sterling Ranch Metro District
Construct a northbound right-turn deceleration lane on Vollmer Road approaching Stapleton Road	With development of Phase 1 of Sterling Ranch - Designed MTCP Project ID C-13	Sterling Ranch Metro District
Construct Briargate Parkway (four-lane Principal Arterial) between Black Forest Road and Vollmer Road.	Future - TBD TBD with PPRTA <sup>(2)</sup> Corridor Study	TBD with PPRTA <sup>(2)</sup> Corridor Study MTCP Project N-5
Construct Stapleton Drive between Vollmer Road and Towner	Future TBD with PPRTA <sup>(2)</sup> Corridor Study	TBD with PPRTA <sup>(2)</sup> Corridor Study MTCP Project N-5
Southbound left-turn lanes on Vollmer Road approaching Burgess Road	Existing Deficiency	Existing Deficiency - Others (This development will not add volume to this turning movement.)
Northbound left-turn lane at Burgess/Vollmer	Projections indicate after 2020 but prior to 2040 the turning volume threshold warranting the turn lane (25 northbound left turns per hour) would be exceeded.	Based on the revised PUD plan, the afternoon peak-hour traffic impact from this project on the northbound approach to this intersection is projected to be below 10 percent. The site volume on the roadway link (both directions of travel) south of the intersection is more than 10 percent, however the turn lane thresholds are shown to be exceeded on the northbound approach during the afternoon peak hour when the impact of this project is below 10 percent on this approach. This project will be participating in the Fee Program and the MTCP Project ID is U-12.
Northbound right-turn lane at Burgess/Vollmer	Projections indicate by 2020 the turning volume threshold warranting the turn lane (50 northbound right turns per hour) would be exceeded.	Based on the revised PUD plan, the afternoon peak-hour traffic impact from this project on the northbound approach to this intersection is projected to be below 10 percent. The site volume on the roadway link (both directions of travel) south of the intersection is more than 10 percent, however the turn lane thresholds are shown to be exceeded on the northbound approach during the afternoon peak hour when the impact of this project is below 10 percent on this approach. This project will be participating in the Fee Program and the MTCP Project ID is U-12.
Future traffic signal at Stapleton/Vollmer	Once warrants are met; analysis to be included with final plat traffic reports; projections indicate by 2040 the intersection would be signalized.	Escrow a fair-share amount toward the cost the signal (to be determined with final plats). Once the signal is constructed, a portion of the escrow amount used to fund the installation of the signal may have become creditable under the Fee Program (if this signal is added to the fee program list of signals eligible for credit (County signals not currently programmed in Fee Program).
Notes: (1) Preliminary concept of responsibility; the actual construction responsibility would be determined through subdivision applications and cost recovery if applicable agreements. (2) PPRTA = Pikes Peak Rural Transportation Authority.		
Source: LSC Transportation Consultants, Inc.		