

MEMORANDUM

DATE: January 31, 2023

TO: Kari Parsons, PCD-Project Manager

FROM: Charlene Durham, PCD-Engineering
719-520-7951
Jeff Rice, PCD-Engineering
719-520-7877

SUBJECT: SF-22-041 – Retreat at TimberRidge Filing No. 3
First Submittal

Engineering Division

Planning and Community Development (PCD)-Engineering reviews plans and reports to ensure general conformance with El Paso County standards and criteria. The project engineer is responsible for compliance with all applicable criteria, including other governmental regulations. Notwithstanding anything depicted in the plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code (LDC), the Engineering Criteria Manual (ECM), the Drainage Criteria Manual (DCM), and the Drainage Criteria Manual Volume 2 (DCM2). Any deviations from regulations and standards must be requested, and approved by the ECM Administrator, in writing. Any modifications necessary to meet overlooked criteria after-the-fact will be entirely the developer's responsibility to rectify.

A written response to all comments and redlines is required for review of the re-submittal. Please arrange a meeting between the developer's team and County staff to review and discuss these comments and prepared revisions/responses prior to the next submittal. Additional comments may be generated on items added or revised after the original comments.

For reference, the preliminary plan for Retreat at TimberRidge is on EDARP at <https://epcdevplanreview.com/Public/ProjectDetails/103340>
The PUD Plan is at <https://epcdevplanreview.com/Public/ProjectDetails/100045>
and Filing 2 is at <https://epcdevplanreview.com/Public/ProjectDetails/111187>

General/Letter of Intent

1. See LOI redlines.
2. Provide draft easement documents for the cul-de-sac at the end of Arroya Lane.
3. Provide a complete wetland mitigation plan. Documentation regarding adherence to the mitigation plan shall be provided to the Planning and Community Development Department by December 31 of each year beginning at the time of initial ground disturbing activities continuing for three years or until the USACE permit is closed.

Final Plat

1. See Final Plat redlines.
2. Show and label the existing access easement from Arroya Lane recorded at Book 5054 Page 1178. If this has been extinguished, provide documentation; if not, address how

this will be addressed to allow the County to take ownership of the ROW. All existing access and utility easements within the proposed Arroya Lane right-of-way shall be terminated or subordinated as appropriate so as not to encumber the proposed right-of-way prior to County acceptance of the Arroya Lane improvements. This also applies to the easement recorded at 220174515 within proposed Hawks Hill Court.

Transportation / Traffic Impact Study

1. See TIS redlines.
LSC Response: See response in TIS redlines.
2. Note: the June 2018 traffic memo was not finally accepted, pending the developer's signature. The April 2018 version (accepted) was essentially the same except for additional details added for deviations that were approved and denied.
LSC Response: All references to the latest version have been updated.
3. Verify that construction of Arroya Lane will be as a rural collector as shown in the CDs.
LSC Response: We have verified that Arroya Lane will be a Rural Collector.

Final Drainage Report / Drainage Plans

1. See FDR redlines.
2. Regarding the Sand Creek channel:
 - a. Note: If the developer desires reimbursement for the construction costs and for the County to maintain the improvements, the process in the DCM needs to be followed (reference DCM Sections 1.7 and 3.3). See comments in Retreat at TimberRidge Filing 2 comment memo regarding drainage fee offsets and DBPS amendment.
 - b. A channel maintenance agreement and O&M manual for permanent stormwater measures in Sand Creek will need to be provided prior to County acceptance of the channel; the previous agreement for Filing No. 2 may be used as the template for this document.

CDs / Grading and Erosion Control Plan / SWMP

1. See CD/GEC redlines.
2. Provide the County CD signature block on the separate utility plans. Show the underdrain stub locations on the utility service locations details and note and/or show the underdrain system outfall(s) on the CDs. (Revise plat notes and provide a sump pump outlet plan for lots on urban roads if not proposed.)
3. Note: a pavement design report is required to be approved prior to base course installation.
4. Note: Bridge material design life certifications will be required prior to acceptance.

Forms / Permits / Other

1. See attached Final Engineering Checklist for required approval documents.
2. See cursory FAE redlines. Quantities will be checked in more detail with following submittals.

Retreat at TimberRidge Filing No. 3

Traffic Technical Memorandum

Prepared for:

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

JULY 1, 2022

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

LSC #S224350

See comment letter also.

Engineering Review

01/30/2023 12:17:28 PM
Jeff Rice - PCD Engineering
JeffRice@elpasoco.com
(719) 520-7877

EPC Planning & Community
Development Department




LSC Responses to TIS Redline Comments

Page: 1

 Number: 1 Author: dsdrice Subject: Text Box Date: 1/30/2023 1:17:41 PM -07'00'

[See comment letter also.](#)

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:08:29 PM
LSC Response: See response memo.

 Number: 2 Author: dsdrice Subject: EPC ENG Review Date: 1/30/2023 1:17:56 PM -07'00'

- The assignment of the Filing No. 3 projected trips to the intersections of Vollmer Road/Poco Road and Vollmer Road/Arroya Lane;
- The projected short-term and long-term level of service at the intersections of Vollmer Road/Poco Road and Vollmer Road/Arroya Lane;
- The recommended street classifications for the internal streets within the currently-proposed Retreat at TimberRidge Filing No. 3;
- Improvements needed with Retreat at TimberRidge Filing No. 3; 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 Retreat at TimberRidge Filing No. 2, which is currently under review, the currently proposed Retreat at TimberRidge Filing No. 3, 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 Retreat at TimberRidge Filing No. 1 is approved and currently under construction. Filing 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. Poco Road has been constructed east of Vollmer Road to provide access for Filing 1. The proposed easternmost north/south street segment connecting to Arroya Lane has been constructed as a gravel road 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.


approved in June, 2022

The Retreat at TimberRidge Filing No. 2 is currently under review. This filing is planned 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.

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. This filing planned 10 lots for single-family homes located east of Vollmer Road and north of Arroya Lane with access to Arroya Lane only. 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.

Number: 1 Author: dsdrice Subject: Callout Date: 1/30/2023 11:11:39 AM -07'00'

[approved in June, 2022](#)

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:08:16 PM
LSC Response: The text has been revised.

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 the **Preliminary Plan Phase 2** in the June 2018 transportation memorandum.

Currently-Proposed Filing No. 3

The Retreat at TimberRidge Filing No. 3 is currently proposed to include 33 lots for single-family homes. The location of the lots within this filing includes 27 of the 33 lots assumed in the **Preliminary Plan Phase 4**, 3 of the 15 lots assumed in the **Preliminary Plan Phase 5**, and 3 of the 75 lots assumed in the **Preliminary Plan Phase 6**.

Arroya Lane is planned to be improved to a Rural Local cross section (paved) with a right-of-way (ROW) width of 80 feet as part of the currently-proposed Filing No. 3. The intersection of Vollmer/Arroya is planned to be realigned so that Arroya intersects Vollmer at a right angle. The easternmost north/south street segments connecting to Arroya Lane that were constructed as gravel roads to provide an interim secondary emergency access for Filing Nos. 1 and 2 will be paved and improved to their final cross sections as part of the currently-proposed Filing No. 3. Aspen Valley Road will also be extended north to Arroya Lane as part of this filing. Figure 2 shows the proposed intersection spacing to Arroya Lane.

CDs show collector width construction

Rural Minor Arterial should be 60 MPH

Sight Distance Analysis

Figure 3 shows a sight-distance analysis at the realigned intersection of Vollmer/Arroya. Based on a design speed of 40 miles per hour (mph) and the criteria contained in Table 2-21 of the El Paso County *Engineering Criteria Manual (ECM)*, the required intersection sight distance at this intersection is 345 feet. Based on the criteria contained in Table 2-17 of the *ECM*, the required stopping sight distance approaching this intersection is 405 feet. As shown in Figure 3, the future intersection analyzed will meet the criteria.

665 (calculated)

7

345

40

6

405

570

5

Figure 4 shows a sight-distance analysis at the proposed access points to Arroya Lane. Based on a design speed of 25 mph and the criteria contained in Table 2-21 of the *ECM*, the required intersection sight distance at the future intersections is 280 feet. Based on the criteria contained in Table 2-17 of the *ECM*, the required stopping sight distance approaching these intersections is 105 feet. As shown in Figure 4, the future intersections analyzed will meet the criteria.

305

11

280

Pedestrian and Bicycle Access

Pedestrian

445

12

There are no existing schools within two miles of the site. However, there are planned future school sites within the Sterling Ranch Master Plan area south of Briargate Parkway. There are planned sidewalks on Vollmer Road and Briargate Parkway. School crossings will be needed at the intersection of Briargate Parkway/Vollmer Road.

east side?

south of Poco Road?

1

Number: 1 Author: dsdrice Subject: Callout Date: 1/30/2023 11:20:17 AM -07'00'

CDs show collector width construction

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:08:03 PM
LSC Response: The text has been revised.

Number: 2 Author: dsdrice Subject: Callout Date: 1/30/2023 11:27:45 AM -07'00'

Rural Minor Arterial should be 60 MPH

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:51 PM
LSC Response: The sight-distance analysis has been updated as requested.

Number: 3 Author: dsdrice Date: 1/30/2023 11:28:07 AM -07'00'
445

Number: 4 Author: dsdrice Date: 1/30/2023 11:28:04 AM -07'00'
305

Number: 5 Author: dsdrice Subject: Callout Date: 1/30/2023 11:30:35 AM -07'00'

570

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:40 PM
LSC Response: Revised as requested.

Number: 6 Author: dsdrice Subject: Callout Date: 1/30/2023 11:29:20 AM -07'00'

40

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:34 PM
LSC Response: Revised as requested.

Number: 7 Author: dsdrice Subject: Callout Date: 1/30/2023 11:33:06 AM -07'00'

665 (calculated)

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:28 PM
LSC Response: Revised as requested.

Number: 8 Author: dsdrice Date: 1/30/2023 11:29:05 AM -07'00'
25

Number: 9 Author: dsdrice Date: 1/30/2023 11:29:44 AM -07'00'
280

Number: 10 Author: dsdrice Date: 1/30/2023 11:29:49 AM -07'00'
155

Number: 11 Author: dsdrice Subject: Callout Date: 1/30/2023 11:30:10 AM -07'00'

305

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:19 PM
LSC Response: Revised as requested.

Number: 12 Author: dsdrice Subject: Callout Date: 1/30/2023 11:33:26 AM -07'00'

445

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:13 PM
LSC Response: Revised as requested.

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 the **Preliminary Plan Phase 2** in the June 2018 transportation memorandum.

Currently-Proposed Filing No. 3

The Retreat at TimberRidge Filing No. 3 is currently proposed to include 33 lots for single-family homes. The location of the lots within this filing includes 27 of the 33 lots assumed in the **Preliminary Plan Phase 4**, 3 of the 15 lots assumed in the **Preliminary Plan Phase 5**, and 3 of the 75 lots assumed in the **Preliminary Plan Phase 6**.

Arroya Lane is planned to be improved to a Rural Local cross section (paved) with a right-of-way (ROW) width of 80 feet as part of the currently-proposed Filing No. 3. The intersection of Vollmer/Arroya is planned to be realigned so that Arroya intersects Vollmer at a right angle. The easternmost north/south street segments connecting to Arroya Lane that were constructed as gravel roads to provide an interim secondary emergency access for Filing Nos. 1 and 2 will be paved and improved to their final cross sections as part of the currently-proposed Filing No. 3. Aspen Valley Road will also be extended north to Arroya Lane as part of this filing. Figure 2 shows the proposed intersection spacing to Arroya Lane.

CDs show collector width construction

Rural Minor Arterial should be 60 MPH

Sight Distance Analysis

Figure 3 shows a sight-distance analysis at the realigned intersection of Vollmer/Arroya. Based on a design speed of 40 miles per hour (mph) and the criteria contained in Table 2-21 of the El Paso County *Engineering Criteria Manual (ECM)*, the required intersection sight distance at this intersection is 445 feet. Based on the criteria contained in Table 2-17 of the *ECM*, the required stopping sight distance approaching this intersection is 305 feet. As shown in Figure 3, the future intersection analyzed will meet the criteria.

665 (calculated)

40

570

Figure 4 shows a sight-distance analysis at the proposed access points to Arroya Lane. Based on a design speed of 25 mph and the criteria contained in Table 2-21 of the *ECM*, the required intersection sight distance at the future intersections is 280 feet. Based on the criteria contained in Table 2-17 of the *ECM*, the required stopping sight distance approaching these intersections is 155 feet. As shown in Figure 4, the future intersections analyzed will meet the criteria.

305

445

Pedestrian and Bicycle Access

Pedestrian

13

There are no existing schools within two miles of the site. However, there are planned future school sites within the Sterling Ranch Master Plan area south of Briargate Parkway. There are planned sidewalks on Vollmer Road and Briargate Parkway. School crossings will be needed at the intersection of Briargate Parkway/Vollmer Road.

east side?


15

south of Poco Road?

14


Number: 13 Author: dsdrice Subject: Callout Date: 1/30/2023 11:56:26 AM -07'00'

Pedestrian

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:08 PM
LSC Response: Revised as requested.


Number: 14 Author: dsdrice Subject: Callout Date: 1/30/2023 11:56:13 AM -07'00'

south of Poco Road?

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:07:01 PM
LSC Response: Revised as requested.

Number: 15 Author: dsdrice Subject: Callout Date: 1/30/2023 11:57:07 AM -07'00'

east side?

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:06:57 PM
LSC Response: Revised as requested.

EXISTING ROAD AND TRAFFIC CONDITIONS

The adjacent streets are shown in Figure 1 and are described below. Copies of the 2016 El Paso County Major Transportation Corridors Plan (MTCP), 2040 Roadway Plan, and 2016 MTCP 2060 Corridor Preservation Plan with the site location identified on each of them have been attached to this report.

Vollmer Road is currently a five-lane urban street within the City of Colorado Springs limits between Black Forest Road and Cowpoke Road; and a two-lane, rural, paved roadway north of Cowpoke Road extending to north of Hodgen Road. In the southbound direction, Vollmer Road has a posted speed limit of 45 mph. South of Cowpoke Road, Vollmer Road has a 40-mph posted speed limit. The 2040 El Paso County MTCP and the Sterling Ranch master traffic study show Vollmer Road as a four-lane Urban Minor Arterial adjacent to the site. Vollmer Road is planned to transition to a 2-lane Rural Minor Arterial north of Poco Road. **In the interim, auxiliary turn lanes will be completed on Vollmer Road at Briargate Parkway as part of the Homestead at Sterling Ranch Filing No. 2 development.** [2]

← Update

Marksheffel Road is a Principal Arterial extending north from the City of Fountain to Woodmen Road. Marksheffel Road is planned to ultimately be widened to six lanes and extended north and west from Woodmen Road to connect to Research Parkway at Black Forest Road. Marksheffel Road is shown as a six-lane Principal Arterial through the Sterling Ranch Master Plan area [3] on the El Paso County MTCP.

← **Currently being constructed as a 4-lane principal arterial through Sterling Ranch.**

Briargate Parkway is a six-lane, Principal Arterial that extends east from Interstate 25 (I-25) to Grand Lawn Circle (about one-half mile east of Powers Boulevard). Briargate Parkway/Stapleton Road is planned ultimately to extend to Towner Drive [4]. **The section of Briargate Parkway between Vollmer Road and the first Sterling Ranch access (Wheatland Drive) is planned to be constructed in the short term as a partial cross section with the Homestead at Sterling Ranch Filing No. 2 development.** [5]

← Update

Poco Road is an existing gravel road which extends east for about three quarters of a mile from Lochwinnoch Lane to Vollmer Road. Poco Road has recently been constructed east of Vollmer Road as an Urban Local Road to serve the Retreat at TimberRidge Filing No. 1 (PCD-SF-19-009). [6]

Existing Traffic Volumes

← **Add statement that Poco Road and Arroya Lane provide two points of access to the Retreat at TimberRidge development,**

Figure 5 shows the existing (2022) peak-hour traffic volumes at the intersection of Poco/Vollmer. The traffic volumes were based on traffic counts conducted by LSC in May 2022. At the time the traffic counts were conducted, only a few homes within the Retreat at TimberRidge were occupied. However, heavy construction activity was observed on the east leg of this intersection. The traffic count sheets are attached.

Number: 1 Author: dsdrice Date: 1/30/2023 12:00:20 PM -07'00'

In the interim, auxiliary turn lanes will be completed on Vollmer Road at Briargate Parkway as part of the Homestead at Sterling Ranch Filing No. 2 development.

Number: 2 Author: dsdrice Subject: Callout Date: 1/30/2023 12:00:05 PM -07'00'

[Update](#)

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:06:38 PM

LSC Response: The text has been updated based on the latest available information.

Number: 3 Author: dsdrice Subject: Callout Date: 1/30/2023 11:59:00 AM -07'00'

[Currently being constructed as a 4-lane principal arterial through Sterling Ranch.](#)

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:06:31 PM

LSC Response: The text has been updated based on the latest available information.

Number: 4 Author: dsdrice Date: 1/30/2023 11:59:40 AM -07'00'

The section of Briargate Parkway between Vollmer Road and the first Sterling Ranch access (Wheatland Drive) is planned to be constructed in the short term as a partial cross section with the Homestead at Sterling Ranch Filing No. 2 development.

Number: 5 Author: dsdrice Subject: Callout Date: 1/30/2023 11:59:51 AM -07'00'

[Update](#)

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:06:20 PM

LSC Response: The text has been updated based on the latest available information.

Number: 6 Author: dsdrice Subject: Callout Date: 1/30/2023 12:02:18 PM -07'00'

[Add statement that Poco Road and Arroya Lane provide two points of access to the Retreat at TimberRidge development,](#)

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:06:09 PM

LSC Response: Revised as requested.

at Sterling Ranch Filing 2, Sterling Ranch Filing No. 2, Sterling Ranch Phase 2, Homestead North Filings 1 through 3 located southeast of the intersection of Vollmer/Poco, and the Retreat at TimberRidge Filing Nos. 1 and 2. The short-term background volumes assume Aspen Valley Road and Hawks Hill Court have been constructed north to Arroya Lane.

Figure 7 shows the projected 2042 background traffic volumes at the key area intersections. 2042 background traffic-volume estimates were based on 2040 volume projections in the *El Paso County MTCP* and previous work completed in the area by LSC. The 2042 background traffic volumes assume buildout of the land uses and street network within the Sterling Ranch Master Plan area and future phases of the Retreat at TimberRidge.

TRIP GENERATION

← Mention the potential Jaynes development and how that would generally affect background traffic if rezoning is approved. [1]

The Retreat at TimberRidge Filing No. 3 site-generated vehicle trips have been estimated using the nationally published trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Table 2 (attached) shows the trip-generation estimates for Filing No. 3. Table 2 also shows estimates of the traffic expected to be generated by the approved Retreat at TimberRidge Filing No. 1, the Retreat at TimberRidge Filing No. 2 [2] **currently under review**, 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. 3 is expected to generate 311 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 6 vehicles would enter and 17 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 20 vehicles would enter and 11 vehicles would exit the site. [3]


TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the street and roadway system serving the site is one of the most important factors in determining the site's traffic impacts. The specific short-term and long-term distribution estimates are shown in Figure 8. The directional-distribution estimates are based on the following factors: the location of the site with respect to the Colorado Springs metropolitan area, the planned access system for the site, the street and roadway system serving the site, the land uses proposed for the site, and the distribution of existing traffic volumes. The short-term distribution estimate assumes only the short section of Briargate Parkway between Vollmer Road and Wheatland Drive has been constructed in the vicinity of the site and the long-term distribution estimate assumes full buildout of the future roadway network in the vicinity of the site.


When the distribution percentages (from Figure 8) are applied to the trip-generation estimates (from Table 2), the resulting site-generated traffic volumes can be determined. Figures 8 and 10 show the

 Number: 1 Author: dsdrice Subject: Callout Date: 1/30/2023 12:05:06 PM -07'00'

Mention the potential Jaynes development and how that would generally affect background traffic if rezoning is approved.

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:05:57 PM

LSC Response: The long-term background volumes have been updated based on recent studies completed in the area, including the Jaynes development (SKP 225) and the Sterling Ranch Sketch Plan Amendment (SKP 224).

 Number: 2 Author: dsdrice Date: 1/30/2023 12:29:05 PM -07'00'

currently under review


 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:05:42 PM

LSC Response: The text has been revised to state that Filing No. 2 is approved.

 Number: 3 Author: dsdrice Subject: Highlight Date: 1/30/2023 12:50:34 PM -07'00'

 Number: 4 Author: dsdrice Subject: Callout Date: 1/30/2023 12:52:15 PM -07'00'

9

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:05:30 PM

LSC Response: Revised as requested.

short-term and 2042 site-generated traffic-volume estimates for the Retreat at TimberRidge Filing 3, respectively.

TOTAL TRAFFIC

Figure 11 shows the projected short-term total traffic volumes at the intersections of Vollmer Road/Poco Road and Vollmer Road/Arroya Lane. The short-term total traffic volumes are the sum of the short-term site-generated traffic volumes (from Figure 9) plus the short-term background traffic volumes (from Figure 6).

Figure 12 shows the projected 2040 total traffic volumes at the intersection of Vollmer Road/Poco Road. The 2040 total traffic volumes are the sum of the long-term site-generated traffic volumes (from Figure 10) plus the 2040 background traffic volumes (from Figure 7).

LEVEL OF SERVICE

The intersections of Vollmer Road/Poco Road and Vollmer Road/Arroya Lane were analyzed using the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The results of the analysis are shown in Figures 6, 7, 11 and 12.

All movements at the stop-sign-controlled intersections of Vollmer Road/Poco Road and Vollmer Road/Arroya Lane are projected to operate at an acceptable level of service (LOS D or better) during the peak hours through 2042.

SUBDIVISION STREET CLASSIFICATIONS


Figure 13 shows the recommended street classifications for the internal streets within the Retreat at TimberRidge plan.


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, the Retreat at TimberRidge Filing No. 2 **Currently under review**, and the currently-proposed Retreat at TimberRidge Filing No. 3 include 193 of the 195 lots identified in that memorandum as Phases 2 through 6. TimberRidge Filing Nos 1 through 3 do not include the two lots located west of Vollmer Road (included as part of Preliminary Plan Phase 2), nor the 10 lots shown as Preliminary Plan Phase 1.


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, as Arroya Lane is planned to be built to the final recommended Rural Local cross section

Collector? 

 Number: 1 Author: CDurham Subject: Callout Date: 1/31/2023 2:01:54 PM -07'00'
2042


 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:05:19 PM
LSC Response: The long-term year has been revised to 2043.

 Number: 2 Author: dsdrice Date: 1/30/2023 12:55:42 PM -07'00'
currently under review

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:05:06 PM
LSC Response: The text has been revised to note that Filing No. 2 is approved.

 Number: 3 Author: dsdrice Subject: Callout Date: 1/30/2023 12:56:16 PM -07'00'

Collector?

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:04:53 PM
LSC Response: Revised as requested.

Verify whether Arroya might need to be upgraded to an urban road (curb and gutter) in the future based on additional traffic pushing ADT above 1,500. What might cause that - increase in SR density or connecting Arroya to the east?

Mr. Loren J. Moreland
Retreat at TimberRidge Filing No. 3

with 80 feet of right-of-way as part of the currently-proposed Filing No. 3. The improvements specially needed with the Retreat at Timber Ridge Filing No. 3 have been repeated below.

- Update Arroya Lane to a Rural **Local** cross section (paved) with 80' right-of-way
- Realign Arroya Lane at the intersection of Vollmer Road so Arroya intersects Vollmer at a right angle.

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 Homestead North. **If the currently proposed filing is approved and recorded prior to the first Homestead North plat, an additional agreement, condition of approval, and/or Subdivision Improvement Agreement (SIA) clause will be required to address construction from Poco to Briargate.**

Update

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. 3 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 33 lots, the total building permit fee would be \$40,293.

* * * * *

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH/KDF:jas

- Enclosures:
- Table 1
 - Figures 1-13
 - Improvements Table – with March 2021, October 2021, and June 2022 Notations
 - Traffic Count Reports
 - Level of Service Reports
 - MTCP Maps

Address width (pavement and shoulders) and condition of Vollmer at Arroya and if any improvements are needed to Vollmer, what is proposed in the CDs, and why a southbound left turn is not recommended.

5

Number: 1 Author: dsdrice Subject: Callout Date: 1/31/2023 3:55:33 PM -07'00'

Verify whether Arroya might need to be upgraded to an urban road (curb and gutter) in the future based on additional traffic pushing ADT above 1,500. What might cause that - increase in SR density or connecting Arroya to the east?

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:04:43 PM

LSC Response: Additional discussion of the potential need for Arroya to be upgraded has been added as requested.

Number: 2 Author: CDurham Subject: Highlight Date: 1/31/2023 2:29:08 PM -07'00'

Local

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:04:32 PM

LSC Response: The text has been revised to recommend Arroya to the Rural Collector cross section.

Number: 3 Author: dsdrice Date: 1/30/2023 1:15:21 PM -07'00'

. If the currently proposed filing is approved and recorded prior to the first Homestead North plat, an additional agreement, condition of approval, and/or Subdivision Improvement Agreement (SIA) clause will be required to address construction from Poco to Briargate.

Number: 4 Author: dsdrice Subject: Callout Date: 1/30/2023 1:15:34 PM -07'00'

Update

Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:04:17 PM

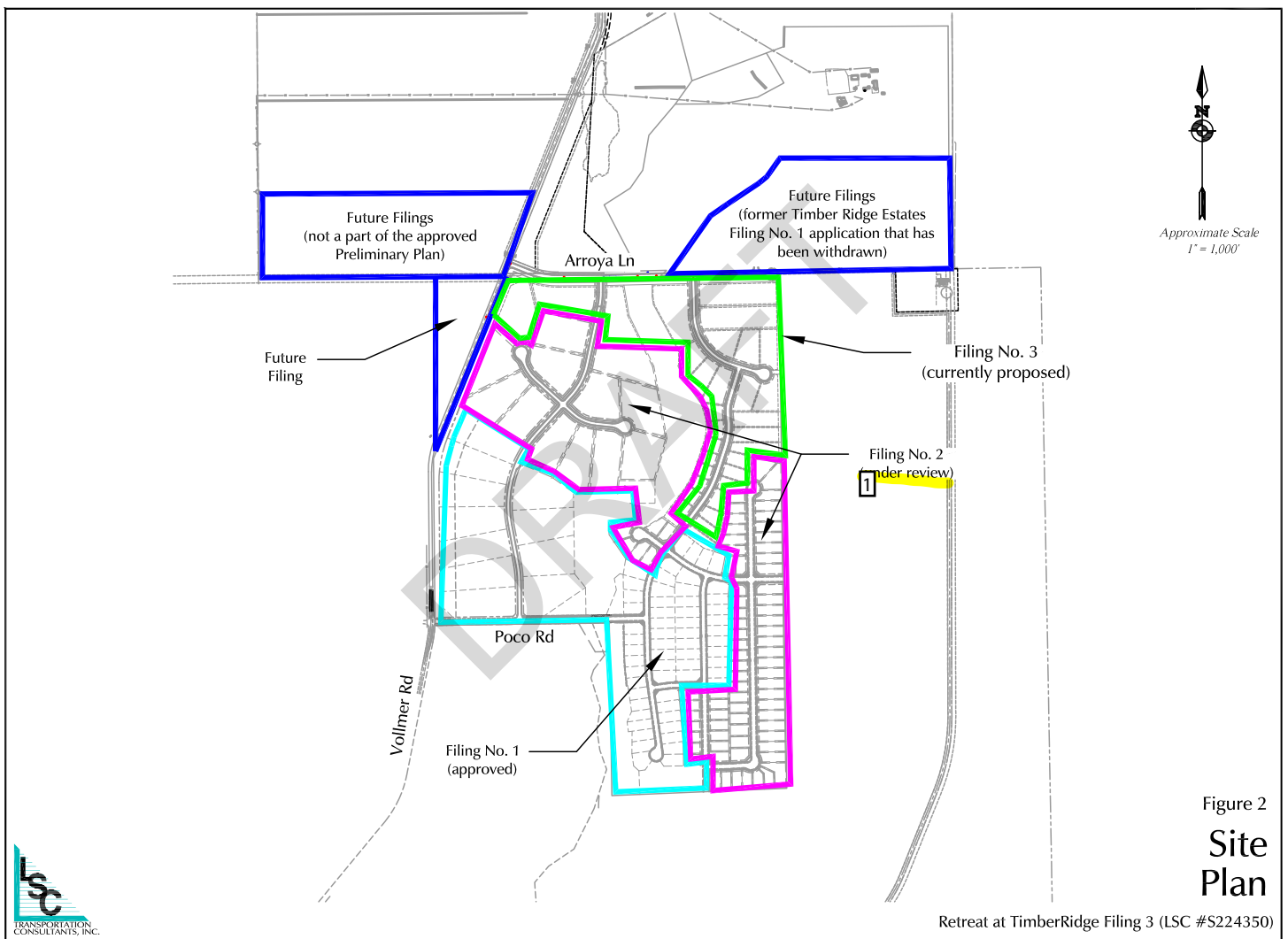
LSC Response: This section has been struck from the report as the improvements to Vollmer Road are currently under construction.


Number: 5 Author: dsdrice Subject: Callout Date: 1/30/2023 2:09:52 PM -07'00'


Address width (pavement and shoulders) and condition of Vollmer at Arroya and if any improvements are needed to Vollmer, what is proposed in the CDs, and why a southbound left turn is not recommended.

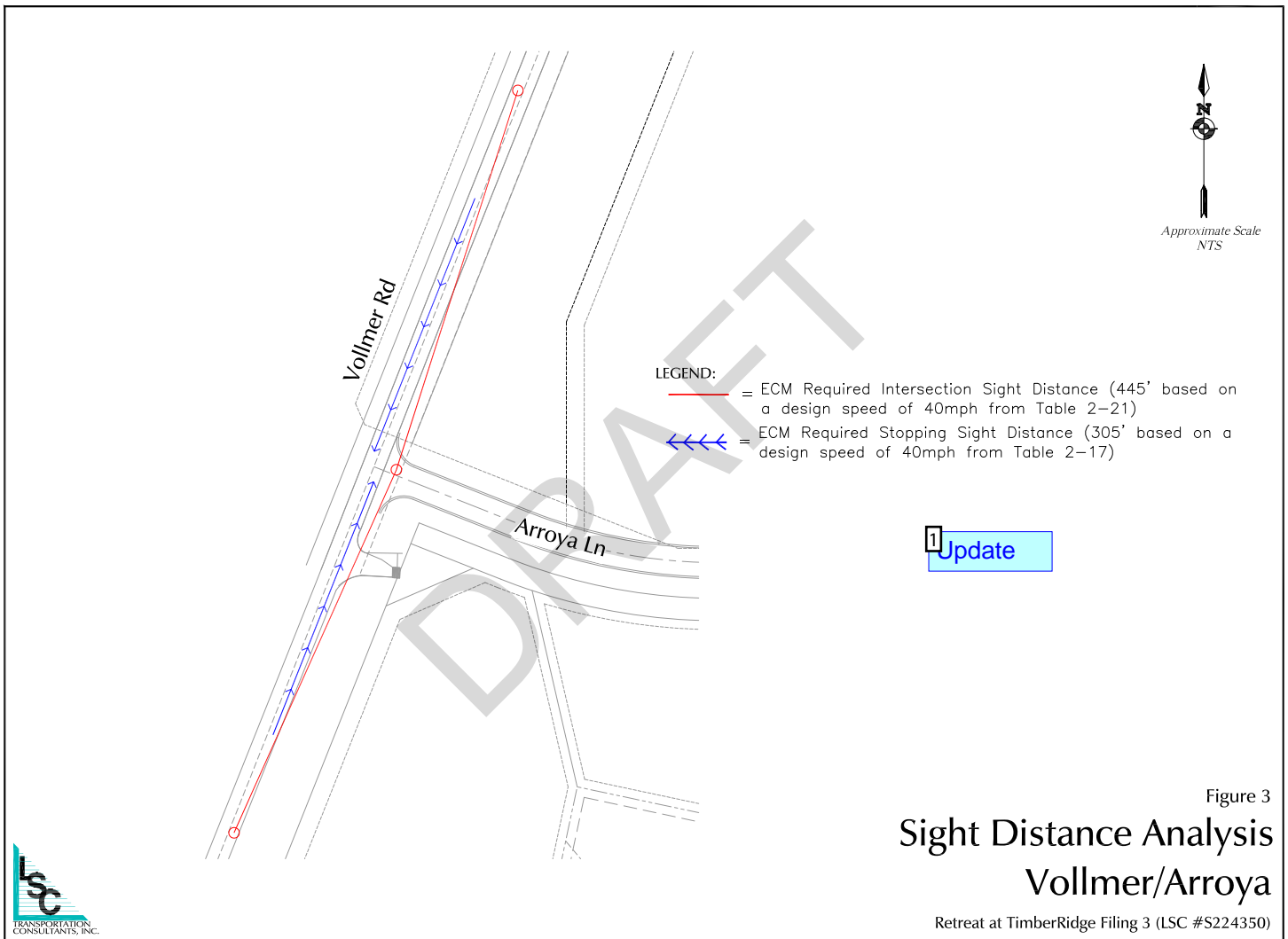
Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:04:07 PM

LSC Response: The additional information has been added as requested.



 Number: 1 Author: CDurham Subject: Highlight Date: 1/31/2023 2:31:33 PM -07'00'

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:03:56 PM
LSC Response: The figure has been updated to show Filing No. 2 as approved.





 Number: 1 Author: dsdrice Subject: Text Box Date: 1/30/2023 1:16:52 PM -07'00'

[Update](#)

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:03:44 PM

LSC Response: The sight-distance analysis has been updated based on a design speed of 60 mph as requested.

LEGEND:

-  = ECM Required Intersection Sight Distance (280' based on a design speed of 25mph from Table 2-21)
-  = ECM Required Stopping Sight Distance (155' based on a design speed of 25mph from Table 2-17)

1 Update

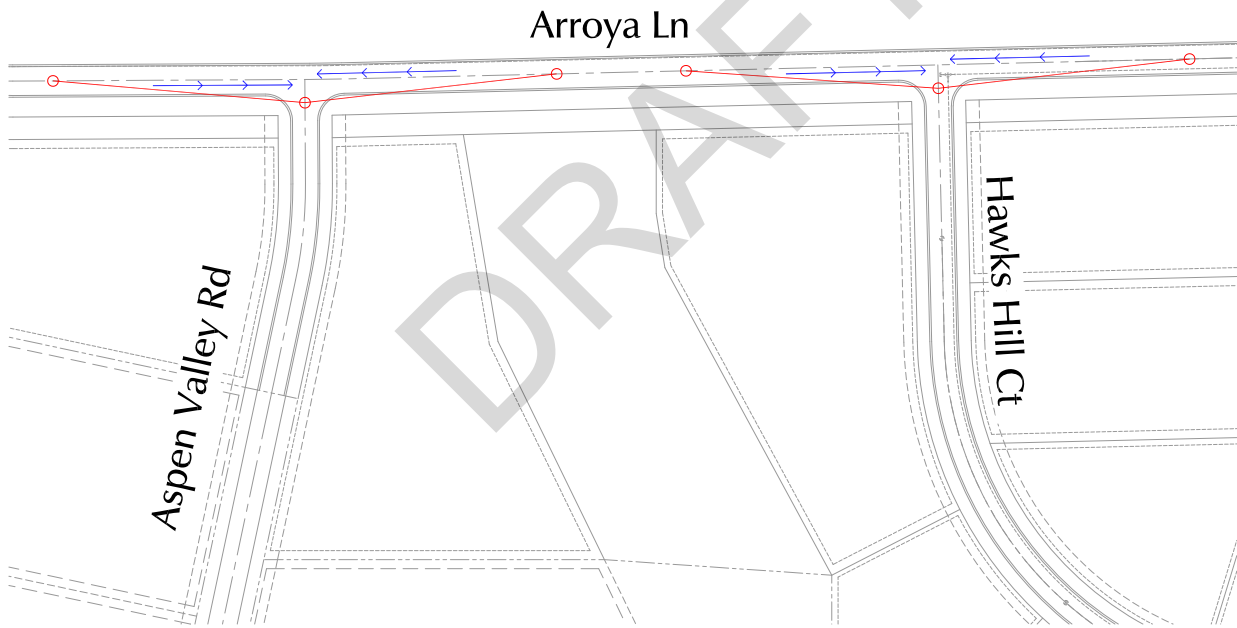




Figure 4
Sight Distance Analysis - Arroya Access Points

Retreat at TimberRidge Filing 3 (LSC #S224350)



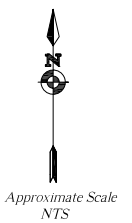
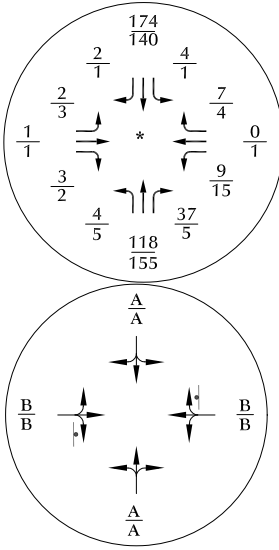
 Number: 1 Author: dsdrice Subject: Text Box Date: 1/30/2023 1:16:58 PM -07'00'

[Update](#)

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:03:33 PM

LSC Response: The sight distance analysis has been updated based on a design speed of 40 mph as requested.

← 1 Show Arroya



2 label major roads

LEGEND:

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour) Based on counts by LSC May 2022

XXX = Average Weekday Traffic (vehicles per day) Estimate by LSC




*Note: Traffic on the east leg is primarily construction related traffic


Figure 5


Existing Traffic

Retreat at TimberRidge Filing 3 (LSC #S224350)


 Number: 1 Author: dsdrice Subject: Callout Date: 1/30/2023 1:33:51 PM -07'00'

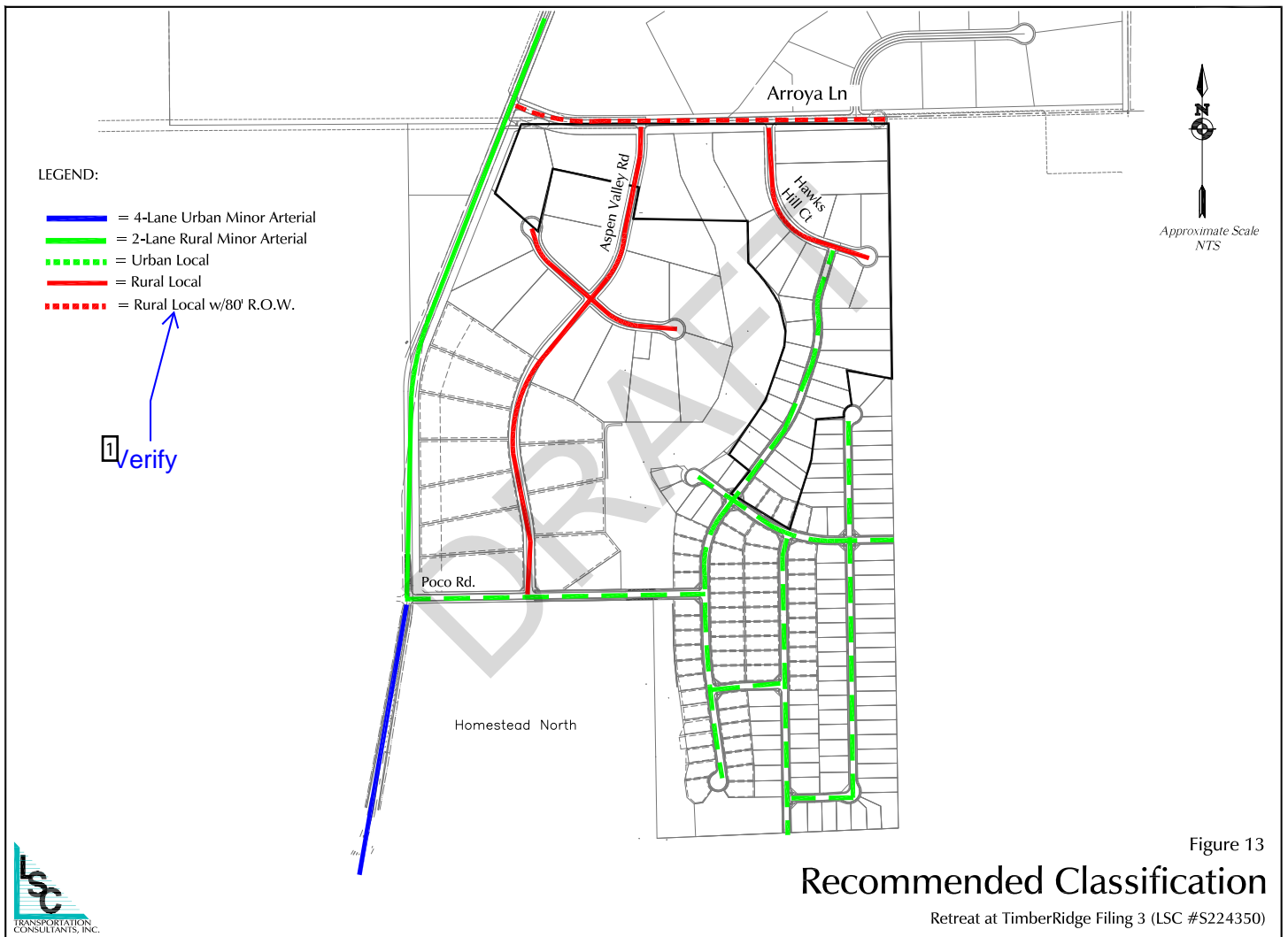
[Show Arroya](#)

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:03:18 PM
LSC Response: The figure has been revised as requested.

 Number: 2 Author: CDurham Subject: Text Box Date: 1/31/2023 2:33:09 PM -07'00'


[Label major roads](#)

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:03:11 PM
LSC Response: The figure has been revised as requested.



Number: 1 Author: dsdrice Subject: Callout Date: 1/30/2023 1:44:25 PM -07'00'

[Verify](#)

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:02:57 PM
LSC Response: The figure has been revised to show Arroya Lane as a Rural Collector.

This improvement may no longer be needed. To be determined with the final plat of the area north of Arroya Lane previously included as Phase 1 of the preliminary Plan

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 ⁽¹⁾
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 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.	Note (3/3/2021): The TimberRidge Estates Filing No. 1 plat has been withdrawn. See report narrative for details/explanation. Note (6/8/2022): Interim improvements are no longer planned as Arroya will be upgraded to its final cross section with Filing No. 3	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 Upgrade Arroya Lane with the Retreat at TimberRidge Filing No. 3 (6/8/2022) This is	The Retreat at Timber Ridge
Realign Arroya Lane at the intersection of Vollmer Road/Arroya Lane so Arroya intersects Vollmer at a right angle.	With the Retreat at TimberRidge Filing No. 3	The Retreat at Timber Ridge
Extend Poco Road to the east including the creek crossing	This improvement has been completed (6/8/2022)	
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).	This improvement has been completed (6/8/2022)	
Construct a northbound right-turn deceleration lane on Vollmer Road approaching Poco Road.	Design and install on Timber Ridge. This improvement has been completed (6/8/2022)	
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 Arroyo
Possible future modern roundabout 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 MTCF: 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 MTCF indicates the Vollmer project will be needed by 2040. The 2040 MTCF 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 MTCF 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 MTCF Project ID U-12 (Note: MTCF indicates two-lane Rural Minor Arterial.)	(Sterling Ranch Metro District) MTCF Master-Planned MTCF 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 MTCF 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 MTCF 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 MTCF 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 MTCF 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 ⁽²⁾ Corridor Study	TBD with PPRTA ⁽²⁾ Corridor Study MTCF Project N-5
Construct Stapleton Drive between Vollmer Road and Tower	Future TBD with PPRTA ⁽²⁾ Corridor Study	TBD with PPRTA ⁽²⁾ Corridor Study MTCF 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 MTCF 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 MTCF 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.

Not anticipated to be needed with the currently proposed Filing No. 3 (6/8/2022)

Only Sterling Ranch now?

If this plat is approved and recorded prior to the first Homestead North plat, additional agreement or SIA clause will be required to address construction from Poco to Briargate. This is related to Item V6 on Table 3 of Homestead North TIS which reads: "Improve Vollmer Road between Sam Bass Drive and Poco Road to a 4-lane Urban Minor Arterial but with necessary lane transitions, redirect tapers, etc. south of Poco to adequately transition between the 4-Lane Urban Minor Arterial Cross Section and the 2-Lane Rural Arterial Cross Section north of Poco Road."


Update - HSN Filing 1 and/or Retreat at TR 2

1
2
3
4
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6

 Number: 1 Author: dsdrice Subject: Highlight Date: 1/30/2023 1:47:36 PM -07'00'

 Number: 2 Author: dsdrice Subject: Highlight Date: 1/30/2023 1:47:20 PM -07'00'

 Number: 3 Author: dsdrice Subject: Highlight Date: 1/30/2023 1:47:41 PM -07'00'

 Number: 4 Author: dsdrice Date: 1/30/2023 1:49:17 PM -07'00'

 Number: 5 Author: dsdrice Subject: Callout Date: 1/30/2023 1:49:48 PM -07'00'

Only Sterling Ranch now?

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:02:43 PM

LSC Response: The recommended improvement has been struck from the updated table as the referenced Sterling Ranch project (Homestead North) has been approved and the intersection of Poco/Vollmer is projected to operate at a satisfactory level of service as a stop-sign-controlled intersection in the long term.

 Number: 6 Author: dsdrice Subject: Callout Date: 1/30/2023 1:51:04 PM -07'00'

Update - HSN Filing 1 and/or Retreat at TR 2

 Author: kdferrin Subject: Sticky Note Date: 9/28/2023 3:02:29 PM

LSC Response: This table has been updated to note that this improvement is planned to be completed by May 2024.