



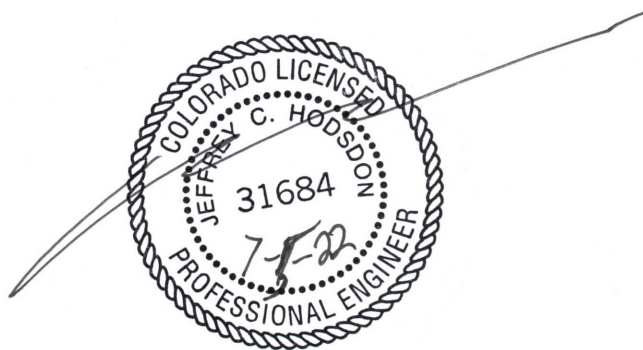
LSC TRANSPORTATION CONSULTANTS, INC.  
2504 East Pikes Peak Avenue, Suite 304  
Colorado Springs, CO 80909  
(719) 633-2868  
FAX (719) 633-5430  
E-mail: [lsc@lsctrans.com](mailto:lsc@lsctrans.com)  
Website: <http://www.lsctrans.com>

ACCEPTED for FILE  
Engineering Review  
08/17/2022 3:40:23 PM  
dsdnijkamp  
EPC Planning & Community  
Development Department

The Sanctuary at Meridian Ranch  
Transportation Memorandum  
PCD File Nos. PUDSP224 and SF2220  
(LSC #S224190)  
June 30, 2022


**Traffic Engineer's Statement**

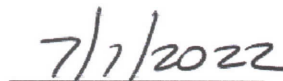
This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



**Developer's Statement**

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

  
Raul Guzman, Vice President  
GTL Development, Inc.

  
Date

# **The Sanctuary at Meridian Ranch**

## **PUD & Filing No. 1**

### **Updated Transportation Memorandum**

Prepared for:  
Mr. Raul Guzman  
Tech Contractors  
P.O. Box 80036  
San Diego, CA 92138

JUNE 30, 2022

---

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

LSC #S224190



## CONTENTS

PREVIOUS TRAFFIC REPORTS.....	1
LAND USE AND ACCESS .....	1
Land Use.....	1
Access .....	2
Sight Distance.....	2
Pedestrian Routes to Schools.....	2
ROADWAY AND TRAFFIC CONDITIONS.....	3
Area Roadways.....	3
TRIP GENERATION.....	4
TRIP DISTRIBUTION AND ASSIGNMENT.....	4
BACKGROUND TRAFFIC.....	5
Short Term .....	5
Short Term .....	5
TOTAL TRAFFIC.....	5
PROJECTED LEVELS OF SERVICE .....	6
REQUIRED IMPROVEMENTS.....	7
Rex Road/Sanctuary Access Points.....	7
Meridian Road/Rex Road .....	7
ROADWAY CLASSIFICATIONS .....	8
DEVIATION REQUESTS.....	8
ROAD IMPROVEMENT FEE PROGRAM .....	8
Enclosures:.....	9
Tables 1 and 3	
Figures 1-12	
Level of Service Reports	
Appendix Table 1	
Figure 3 School Pedestrian Routes from the <i>Rolling Hills Ranch PUDSP Traffic Impact Analysis</i>	
El Paso County Road Impact Fee Advisory Committee Meeting Minutes	



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](mailto:lsc@lsctrans.com)  
Website: <http://www.lsctrans.com>

June 30, 2022

Mr. Raul Guzman  
Tech Contractors  
P.O. Box 80036  
San Diego, CA 92138

RE: The Sanctuary at Meridian Ranch  
El Paso County, CO  
Updated Transportation Memorandum  
LSC #S224190

Dear Mr. Guzman,

LSC Transportation Consultants, Inc. has prepared this updated Transportation Memorandum for the Sanctuary at Meridian Ranch PUD and Filing No. 1. The location of the site is shown in Figure 1. This report is intended as a site-specific PUD and final-plat traffic report.

## PREVIOUS TRAFFIC REPORTS

LSC recently completed the *Meridian Ranch Sketch Plan 2021 Amendment Traffic Impact Study* (TIS), which included this site. This report was dated June 25, 2021. The land use and access for the currently-proposed plan is consistent with the land use and trip generation estimated and evaluated in that report.

A list of other traffic studies in the area of study completed within the past five years (that LSC is aware of) is attached for reference. This study accounts for the land use, trip generation, and the roadway network included in these studies.

A traffic report, entitled *Eastonville Road Project Conceptual Design Report* was also recently completed for Eastonville Road by Wilson & Company (for El Paso County).

## LAND USE AND ACCESS

### Land Use

The approved Meridian Ranch 2021 Sketch Plan Amendment increased the overall maximum number of residential dwelling units within all of Meridian Ranch from 4,500 to 5,000. This increase allows for up to 784 residential dwelling units in the amendment area which includes the 45-acre



site located south of Rex Road currently proposed for the Sanctuary at Meridian Ranch and a 152-acre parcel north of Rex Road. The Sketch Plan TIS analyzed two development scenarios as the distribution of lots north and south of Rex Road had not been determined at that time. The multiple scenarios have not been carried forward in this report as the distribution of lots north and south of Rex Road has since been determined. This report includes analysis of the current PUD plan for Sanctuary which includes defined lot counts south of Rex Road (and defined maximum lot count north of Rex - future PUD. The future trips to be generated by the future Rolling Hills Ranch North PUD north of Rex Road have been included as long-term background traffic).

The site plan for the Sanctuary at Meridian Ranch is shown in Figure 2. It is planned to include a total of 343 lots for single-family homes. The number of proposed lots within the Sanctuary has been solidified and is about midway between the two development scenarios analyzed in the Sketch Plan Amendment TIS. The area north of Rex Road will likely be developed with 441 residential dwelling units as part of a future PUD. That future Rolling Hills Ranch North PUD plus this Sanctuary PUD will contain a total of 784 residential dwelling units within the Meridian Ranch Sketch Plan 2021 Amendment Area.

### **Access**

This report assumes Rex Road is constructed east from Estate Ridge Drive to Shelter Creek Drive with the proposed Sanctuary Filing 1 at Meridian Ranch. Rex Road will be completed through the Regional Park between Shelter Creek Drive and Eastonville Road prior to trips being generated by residents in the proposed Sanctuary Filing 1 final plat. Two full-movement access points are proposed to this new section. The first access, Retreat Peak Drive, is located 1,848 feet east of Estate Ridge Drive and the second access, Shelter Creek Drive, is located 1,120 feet east of the first access. The proposed access points are consistent with the access plan assumed in the Sketch Plan Amendment TIS.

### **Sight Distance**

Figures 3 and 4 show sight-distance analysis at the proposed intersections of Rex Road/Retreat Peak Drive and Rex Road/Shelter Creek Drive, respectively. Based on a design speed of 40 miles per hour (mph) on Rex Road and the criteria contained in Table 2-21 of the *Engineering Criteria Manual (ECM)*, the required intersection sight distance at these future intersections to Rex is 445 feet. Based on the criteria contained in Table 2-17 of the *ECM*, the required stopping sight distance approaching these intersections is 305 feet. As shown in Figures 3 and 4, these criteria can be met at both intersections.

### **Pedestrian Routes to Schools**

Figure 2 shows the proposed sidewalk and trail locations in the vicinity of the site. As shown in Figure 2, the proposed pedestrian facilities will connect with the planned pedestrian facilities for the Rolling Ranch at Meridian Ranch development just west of the site. LSC prepared a school pedestrian plan

as part of the Rolling Hills Ranch at Meridian Ranch PUDSP Traffic Impact Analysis dated June 29, 2020 (PCD File Nos. PUDSP224 and SF2220). A copy of the figure from that report (Figure 3) that shows the potential pedestrian routes to schools within two miles of the site has been attached.

## **ROADWAY AND TRAFFIC CONDITIONS**

### **Area Roadways**

The major roadways in the site's vicinity are shown in Figure 1 and are described below.

**Rex Road** extends east from Goodson Road to Sunrise Ridge Drive within the Meridian Ranch development. Rex Road is classified as an Urban Minor Arterial in the *2016 El Paso County Major Transportation Corridors Plan* (MTCP) 2040 Roadway Plan; however, the developer intends to only construct a half of the standard Urban Minor Arterial cross section. The posted speed limit on Rex Road is 45 mph between Meridian Road and Mt. Gateway Drive and 35 mph east of Mt. Gateway Drive. At the time of development of the Sanctuary at Meridian Ranch, Rex Road will have been constructed to Estate Ridge Drive (with Estates at Rolling Hills Ranch Filing No. 2). Rex Road will be extended east to Eastonville Road by the developer as a separate project. Rex Road will be completed to Eastonville Road prior to trips being generated by residents in the proposed Sanctuary Filing 1 final plat. A short section is also proposed to be constructed east of Eastonville Road in the short-term future as part of the Grandview Reserve Phase 1 development currently under review. In the future, Rex Road is planned to be constructed southeast through Grandview Reserve and will intersect US Highway 24 as part of future development within the Grandview Reserve Sketch Plan area, coordination with El Paso County, the Colorado Department of Transportation (CDOT), and other local agencies, and associated applications to CDOT.

**Meridian Road** extends north from South Blaney Road to County Line Road. The posted speed limit on Meridian Road in the vicinity of Rex Road is 55 mph. Meridian Road is shown as a four-lane Principal Arterial south of Rex Road, a four-lane Minor Arterial north of Rex Road, and a two-lane Minor Arterial north of Murphy Road on the El Paso County *Major Transportation Corridors Plan*.

**Eastonville Road** extends northeast from Meridian Road to past Hodgen Road. It is shown as a two-lane Minor Arterial on the El Paso County *Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan*. Eastonville Road has a three-lane cross-section (one through lane in each direction plus a center two-way, left-turn lane) from Woodmen Hills Drive to Snaffle Bit Road (approximately midway between Judge Orr Road and Stapleton Road). Eastonville Road is a two-lane roadway north and south of this section. Eastonville Road is currently unpaved north of Londonderry Drive. Pikes Peak Rural Transportation Authority (PPRTA)-funded improvements are anticipated in the future for Eastonville Road. The *Conceptual Design Report Eastonville Road Project* prepared by Wilson & Company Inc. in April 2021 shows the section of Eastonville adjacent to the site as an urban 48-foot paved section with one through lane in each direction, a two-way, left-turn-lane center median, and 6-foot paved shoulder. The posted speed limit north of Stapleton Drive is 35 mph.

**Londonderry Drive** is a two-lane Collector extending east from the Falcon Hills neighborhood to Eastonville Road. Londonderry Drive has one through lane in each direction and a raised center median.

## **TRIP GENERATION**

The site-generated vehicle trips were estimated using the nationally published trip-generation rates from *Trip Generation, 11th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 1 of the shows the trip-generation estimates for the currently proposed Sanctuary at Meridian Ranch PUD.

Table 1 also shows (for reference) the future trip generation for the future Rolling Hills Ranch North PUD (the 152-acre parcel north of Rex Road). These trips have been figured into the future total traffic volumes, but these trips are considered “background traffic” in this report.

Table 1 includes a comparison of the current trip-generation estimate for the two PUD developments within the Sketch Plan 2021 Amendment area (which include the proposed Sanctuary at Meridian Ranch PUD and the upcoming/future Rolling Hills Ranch North PUD – 152-acre parcel north of Rex Road) to the trip-generation estimate shown in the Sketch Plan 2021 Amendment TIS. The north parcel is assumed to be developed with 441 residential dwelling units, as allowed by the approved Sketch Plan 2021 Amendment. Note that the trip-generation estimate shown in the Sketch Plan 2021 Amendment TIS was based on the trip-generation rates for Single Family Detached Housing from the **10th Edition** of *Trip Generation*, which are slightly higher than the rates shown in the current **11th Edition**.

The Sanctuary at Meridian Ranch is expected to generate about 3,234 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 a.m. and 8:30 a.m., about 62 vehicles would enter and 178 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 p.m. and 6:15 p.m., about 130 vehicles would enter and 77 vehicles would exit the site.

## **TRIP DISTRIBUTION AND ASSIGNMENT**

The directional distribution of the traffic volumes to be generated by the Sanctuary at Meridian Ranch on the area roadways is an important factor in determining the traffic impacts. Figure 5 shows the overall short-term and long-term external-trip directional-distribution estimates for the trips estimated to be generated by the site. The estimates were based on the following factors: the location of Meridian Ranch land uses with respect to nearby residential, employment, commercial, and activity centers and the balance of the Colorado Springs metropolitan area; the land use types; and the internal/external street and roadway system serving the site.

The short-term directional-distribution estimate assumes Rex Road has been extended from its existing terminus to the first Grandview Reserve access east of Eastonville Road but not further

east. The long-term directional distribution assumes buildout of the area street network including the extension of Rex Road east to US Hwy 24 and Stapleton Drive/Briargate Parkway west to Black Forest Road.

When the distribution percentages (from Figure 5) are applied to the trip-generation estimates (from Table 1), the resulting site-generated traffic volumes can be determined. Figures 6 and 7 show the short-term and long-term site-generated traffic volumes at the site-access points to Rex Road, respectively.

## **BACKGROUND TRAFFIC**

Background traffic is the traffic estimated to be on the study-area streets without consideration of the land uses within the Amendment area. It includes through traffic and traffic generated by adjacent/nearby developments.

### **Short Term**

Figure 8 shows the projected short-term background traffic volumes at the site-access points to Rex Road. The short-term background traffic volumes were taken from the Sketch Plan 2021 Amendment TIS.

### **Long Term**

Figure 5a shows the projected 2041 background traffic volumes. The 2041 background traffic volumes were based on the 2041 background volumes from the Sketch Plan 2021 Amendment TIS plus traffic estimated to be generated by the portion of the Sketch Plan 2021 Amendment Area north of Rex Road. The background traffic volumes assume this area will be developed with 441 residential dwelling units as part of a future PUD for a total of 784 residential dwelling units within the Meridian Ranch Sketch Plan 2021 Amendment Area, which is consistent with the Sketch Plan TIS.

## **TOTAL TRAFFIC**

Figure 10 shows the projected short-term total traffic volumes **at the site access points** to Rex Road. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 8) and the short-term site-generated traffic volumes (from Figure 6).

Figure 11 shows the projected 2041 total traffic volumes **at the site-access points** to Rex Road. The short-term total traffic volumes are the sum of the 2041 background traffic volumes (from Figure 9) and the long-term site-generated traffic volumes (from Figure 7).

Please refer the attached copies of figures from the Sketch Plan Amendment TIS report for off-site intersection volumes. These have been included for reference. The projections of future off-site intersection volumes shown in that report are still valid.

## PROJECTED LEVELS OF SERVICE

Level of service (LOS) is a quantitative measure of the level of delay at an intersection. Level of service is indicated on a scale from “A” to “F.” LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

**Table 2: Level of Service Delay Ranges**

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle) <sup>(1)</sup>
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more
(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.		

The **site-access points to Rex Road** were analyzed to determine the projected levels of service for the short-term and 2041 total traffic volumes, based on the unsignalized-intersection analysis procedures from the *Highway Capacity Manual*. Figures 10 and 11 show the level of service analysis results. The level of service reports are attached.

The intersections of Rex/Retreat Peak and Rex/Shelter Creek are expected to operate at LOS D or better for all movements during the peak hours as stop-sign-controlled intersections, based on the projected short-term and 2041 traffic volumes.

Please refer to the Sketch Plan 2021 Amendment TIS for the total traffic volumes and level of service analysis at key external intersections in the vicinity of the site. Note: copies of applicable figures from the Sketch Plan Amendment TIS report have been attached to this report for quick reference.

As the total number of dwelling units for the Meridian Ranch 2021 Sketch Plan Amendment area is not anticipated to change from the number shown in the Sketch Plan TIS, no significant changes

are projected to the results of that study. El Paso County is currently working on a plan for intersections to Eastonville Road, including Rex Road. Once that study is drafted, this memorandum could be updated accordingly.

Note that the intersection of Lambert Road/Londonderry Drive was not included in the Sketch Plan TIS. The developer intends to connect Rex Road to Eastonville Road soon after development begins within the Sanctuary PUD. Given that Rex Road will soon be connected to the east and the street network of the currently proposed Sanctuary at Meridian does not directly connect the Rolling Hills Ranch neighborhood to the west and the circuitous design of the Rolling Hills Ranch street network, it is anticipated that this development will add only a minor amount of traffic to the intersection of Lambert/Londonderry. Analysis of this intersection, including updated traffic counts, will be provided with the next Rolling Hills Ranch North PUD.

## **REQUIRED IMPROVEMENTS**

Table 3 (attached) contains a summary of needed area improvements.

### **Rex Road/Sanctuary Access Points**

As shown in Table 3, the following improvements are recommended at the site-access points to Rex Road with the currently-proposed Sanctuary at Meridian Ranch:

- Based on the short total-traffic volumes shown in Figure 10 and the criteria contained in the *El Paso County Engineering Criteria Manual (ECM)*, a westbound left-turn lane will be required on Rex Road approaching Retreat Peak Drive. This lane should be 205 feet long plus a 160-foot taper.
- Based on the short total-traffic volumes shown in Figure 10 and the criteria contained in the *ECM*, as eastbound right-turn deceleration lane will be required on Rex Road approaching Retreat Peak Drive. This lane should be 155 feet long plus a 160-foot taper.
- Based on the short total-traffic volumes shown in Figure 10 and the criteria contained in the *ECM*, a westbound left-turn lane will be required on Rex Road approaching Shelter Creek Drive. This lane should be 205 feet long plus a 160-foot taper.
- Based on the short and 2041 total-traffic volumes shown in Figures 10 and 11 and the criteria contained in the *ECM*, as eastbound right-turn deceleration lane will be **not** required on Rex Road approaching Shelter Creek Drive.

### **Meridian Road/Rex Road**

The intersection of Meridian Road/Rex Road is currently stop-sign controlled. It is our understanding that, as part of the Estates at Rolling Hills Ranch Filing No. 2, the Meridian Ranch developer agreed to coordinate the design and construction of the necessary improvements to the Meridian Road/Rex Road intersection. More recently, the County has been the lead for the completion of the design and construction of intersection improvements. As of June 2022, the traffic signal plans have been approved and the developer is just awaiting EPC Public Works to

give the “go ahead” to send the signal out for bid and complete the signal installation. The civil improvements including additional through lanes, road alignment adjustments, drainage improvements, and a traffic signal are still under design.

The developer of Meridian Ranch will be responsible for the fair share cost of the design and construction of the traffic-signal improvements. At its November 18, 2020 meeting, the El Paso County Road Impact Fee Advisory Committee Rex and Meridian Signal Request unanimously approved the request to include the Rex Road and Meridian Road intersection as an Eligible Intersection Improvement. For reference, the meeting minutes are attached to this report as an appendix item.

By 2041, it was assumed that Meridian Road would be widened to provide two northbound and southbound through lanes. Based on the lane geometry shown in Figure 10c, all movements are projected to continue to operate at LOS D or better during the peak hours, through 2041.

## **ROADWAY CLASSIFICATIONS**

Figure 12 shows the recommended street classifications. All of the internal streets within the Sanctuary at Meridian Ranch should be classified Urban Local or Urban Local (Low Volume).

## **DEVIATION REQUESTS**

The following deviation requests to the criteria contained in the El Paso County *Engineering Criteria Manual (ECM)* will be included with this submittal:

- A deviation request to construct Rex Road as a half minor arterial section east of Estate Ridge Drive.
- A deviation request to eliminate mid-block pedestrian crossings between the following streets: Arriba Drive, Estates Ridge Drive, Nederland Drive, and Rico Ridge Drive.
- A deviation request to eliminate a pedestrian crossing and associated pedestrian handicap ramps across the top of T-intersections located along Retreat Peak Drive and Shelter Creek Drive and provide pedestrian ramps and handicap access across the streets at locations not more than 600’ away from the intersections in question.
- A deviation request for the spacing of intersections on Rex Road between Retreat Peak Drive and Shelter Creek Drive.
- A deviation request to the required standard sight-distance triangle length for Urban Knuckles.

## **ROAD IMPROVEMENT FEE PROGRAM**

This site is located within the Woodmen Road Metropolitan District, and as such will be required to pay applicable Woodmen Road District fees in lieu of participation in the El Paso County Road Improvement Fee Program. Regarding a potential request for Countywide Fee Program credit for design and/or installation of new Rex Road segments, it is the applicant’s responsibility to:

- Contact the road impact fee advisory committee to confirm/determine if these are eligible intersection improvements for reimbursement under the road impact fee, and
- Submit a request for Fee program credit (if applicable). Any credit, if approved, would be per Fee Program provisions and is based on program unit costs, not actual costs incurred.

\* \* \* \* \*

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: Tables 1 and 3  
Figures 1-12  
Level of Service Reports  
Appendix Table 1  
Figure 3 School Pedestrian Routes from the *Rolling Hills Ranch PUDSP*  
*Traffic Impact Analysis*  
El Paso County Road Impact Fee Advisory Committee Meeting Minutes



## Tables 1 and 3

---

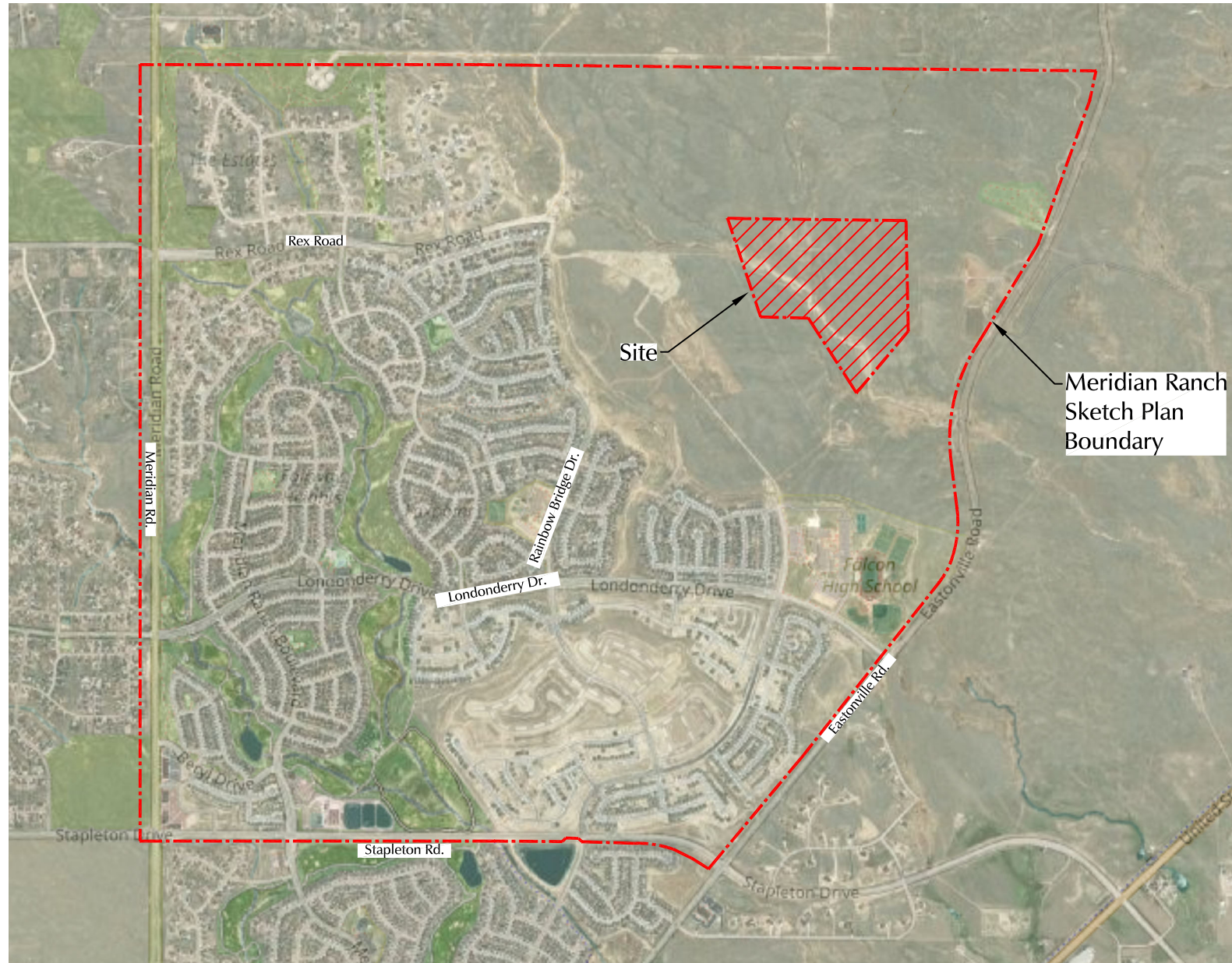
**Table 1  
Trip Generation Estimate  
The Sanctuary at Meridian Ranch**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates <sup>(1)</sup>						Total Trips Generated			
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out	In	Out
Sanctuary at Rolling Hills Ranch (Currently Proposed PUD)												
210	Single-Family Detached Housing	343 DU <sup>(2)</sup>	9.43	0.18	0.52	0.59	0.35	3,234	62	178	203	119
Future Development North of Rex Road (Not a part of the currently proposed PUD)												
210	Single-Family Detached Housing	441 DU	9.43	0.18	0.52	0.59	0.35	4,159	80	228	261	153
Total 2021 Sketch Plan Amendment Area		784 DU						7393	143	406	464	273
Trip Generation Estimate for the Same Area From the <i>The Meridian Ranch Sketch Plan 2021 Amendment Traffic Impact Analysis</i> , June 25, 2021												
210	Single-Family Detached Housing	784 DU	9.44	0.19	0.56	0.62	0.37	7,401	145	435	489	287
	<i>Change</i>	<i>0 DU</i>						-8	-2	-29	-25	-15
Notes:												
(1) Source: " <i>Trip Generation, 11th Edition, 2021</i> " by the Institute of Transportation Engineers (ITE)												
(2) DU = dwelling unit												
Source: LSC Transportation Consultants, Inc.												
Apr-22												

Table 3 The Sanctuary at Meridian Ranch Roadway Improvements				
Item #		Improvement	Timing	Responsibility
Roadway Segment Improvements				
1	Eastonville Road - Rex Road to Latigo initial grading and paving		TBD by EPC; See Item 2 For Phase 2 of the Eastonville PPRTA Project	Area developments or otherwise determined by the County - depending on traffic impacts in the short term prior to Phase 2 of PPRTA.
2	Eastonville Road - Rex Road to Latigo upgrade to Rural Minor Arterial (Per MTCP) ( <b>Note: recent discussions suggest that this segment may be planned for an urban section, instead of rural</b> )		TBD by EPC (Phase 2 of the Eastonville PPRTA Project)	PPRTA and potentially area developments or otherwise determined by the County - depending on the timing of developments and level of traffic impacts relative to/ prior to Phase 2 of PPRTA.
3	Eastonville Road - Londonderry to Rex Road - Roadway Design and <b>upgrade to Urban Minor Arterial (Project-specific cross section has been determined by EPC)</b>		As per EPC direction PPRTA Phase 1 - Design process is underway	<b>PPRTA (Phase 1 - north portion):</b> Grandview Development in cooperation with El Paso County DPW staff/consultants and potentially in conjunction with other area developments per any agreements in-place with El Paso County.
4	Eastonville Road - Snaffle Bit to Londonderry -Roadway Design and <b>upgrade to Urban Minor Arterial (Project-specific cross section has been determined by EPC).</b>		As per EPC direction PPRTA Phase 1 - Design process is underway	<b>PPRTA (Phase 1 - south portion):</b> El Paso County
5	Construct Rex Road as an Urban 2-Lane Minor Arterial from Sunrise Ridge Drive to Rolling Ranch Drive.		The Estates at Rolling Hills Ranch Filing No. 2	Meridian Ranch
6	Construct Rex Road as an Urban 2-Lane Minor Arterial from Rolling Ranch Drive to Estate Ridge Drive.		The Estates at Rolling Hills Ranch Filing No. 2	Meridian Ranch
7	Construct Rex Road as an Urban 2-Lane Minor Arterial from Estates Ridge Drive Drive to Shelter Creek Drive		With the Sanctuary at Meridian Ranch	Meridian Ranch
8	Construct Rex Road as an Urban 2-Lane Minor Arterial from Shelter Creek Drive to Eastonville Road.		Prior to approval of subdivisions north of Sanctuary at Meridian Ranch (north side of Rex Road) <u>but also</u> prior to trips being generated by residents of the Sanctuary at Meridian Ranch.	Meridian Ranch
9	Rex Road from Eastonville Road to US 24		With Grandview Estates ( <b>Timing TBD - beyond Phase 1</b> )	Grandview Reserve Development
10	Meridian Road - Widen to provide two northbound and two southbound through lanes from just north of Indian Paint Trail to Murphy Road.		Shown on 2040 MTCP Roadway Plan	El Paso County
11	Stapleton Drive - Meridian Road to Eastonville Road complete southern (eastbound) half		Shown on 2040 MTCP Roadway Plan	El Paso County
12	Stapleton Drive - Eastonville Road to US Hwy 24 complete southern (eastbound) half		Shown on 2040 MTCP Roadway Plan	Waterbury Metro District
Rex/Meridian				
(Please refer to the "Rex/Meridian Intersection" section of the report for additional details)				
13	Rex & Meridian: Design & Construction of the -Intersection Improvements. The improvements will include additional through lanes, road alignment adjustments, drainage improvements and a traffic-signal.		The signal plans have been approved and the developer is waiting on EPC Department of Public Works to allow the developer to send the signal plans out for bid and complete the signal installation. The civil improvements are still under design. (Information current as of 06/27/2022)	The County is the lead for the completion of the design and construction of intersection improvements. The developer of Meridian Ranch will be responsible for the fair share cost of the design and construction of the traffic-signal improvements. At its November 18, 2020 meeting, the El Paso County Road Impact Fee Advisory Committee Rex and Meridian Signal Request– unanimously approved the request to include the Rex Road and Meridian Road intersection as an Eligible Intersection Improvement.
Rex/Eastonville				
14	Design and construction of a modern roundabout intersection.		Improvements at this intersection are as part of the Eastonville Road PPRTA Project Phase 1. The design process is currently underway.	<b>PPRTA (Phase 1 - north portion):</b> Grandview Development in cooperation with El Paso County DPW staff/consultants and potentially in conjunction with other area developments per any agreements in-place with El Paso County.
Eastonville/Londonderry				
15	Design and construction of a modern roundabout intersection.		Improvements at this intersection are as part of the Eastonville Road PPRTA Project Phase 1. The design process is currently underway.	<b>PPRTA (Phase 1 - south portion):</b> El Paso County
Rex/Rolling Ranch & Rex/Estate Ridge				
16	Construct a 190-foot westbound left-turn lane on Rex Road approaching Rolling Ranch Drive and a 185-foot eastbound left-turn lane on Rex Road approaching Estate Ridge Drive with a shared 90-foot reverse curve taper.		With The Estates at Rolling Hills Ranch Filing No. 2 or Rolling Hills Ranch at Meridian Ranch Filing No. 3	Meridian Ranch
17	Construct a 155-foot eastbound right-turn deceleration lane on Rex Road approaching Rolling Ranch Drive plus a 160-foot taper.		Rolling Hills Ranch at Meridian Ranch Filing No. 3	Meridian Ranch
18	Construct a 155-foot westbound right-turn deceleration lane on Rex Road approaching Estates Ridge Drive plus a 160-foot taper.		With the Sanctuary at Meridian Ranch	Meridian Ranch
Rex Road/Retreat Peak Drive				
19	Construct a 205-foot westbound left-turn lane on Rex Road approaching Retreat Peak Drive plus a 160-foot taper		With the Sanctuary at Meridian Ranch	Meridian Ranch
20	Construct a 155-foot eastbound right-turn deceleration lane on Rex Road approaching Retreat Peak Drive plus a 160-foot taper.		With the Sanctuary at Meridian Ranch	Meridian Ranch
Rex Road/Shelter Creek Drive				
21	Construct a 255-foot westbound left-turn lane on Rex Road approaching Shelter Creek Drive plus a 160-foot taper		With the Sanctuary at Meridian Ranch	Meridian Ranch
22	Construct a 155-foot westbound right-turn deceleration lane on Rex Road approaching Shelter Creek Drive plus a 160-foot taper.		With the development of filings within the amendment area north of Rex Road	Meridian Ranch
23	Construct a 205-foot eastbound left-turn lane on Rex Road approaching Shelter Creek Drive plus a 160-foot taper		With the development of filings within the amendment area north of Rex Road	Meridian Ranch
Source: LSC Transportation Consultants, Inc. (Rev. June, 2022)				

## Figures 1-12

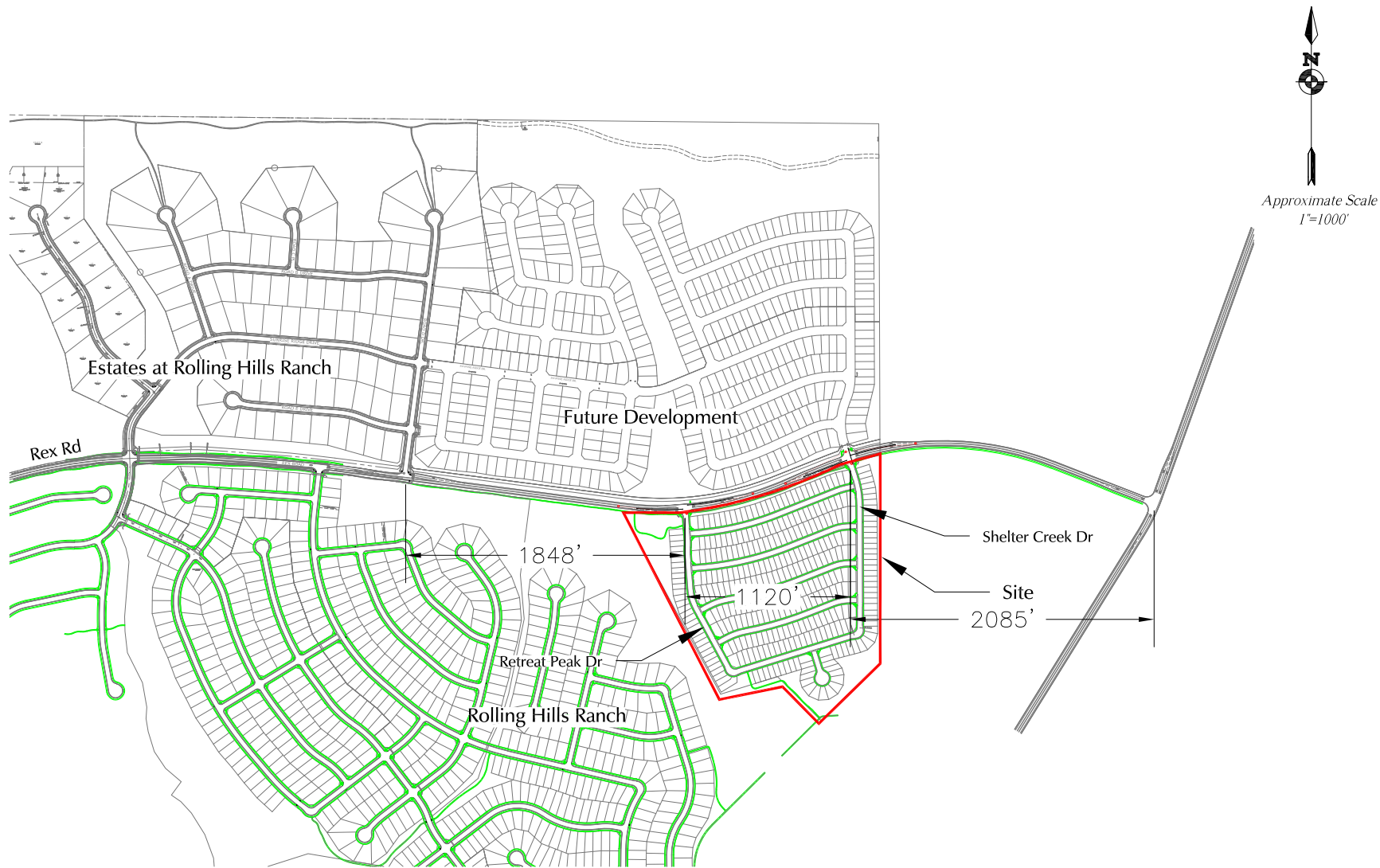
---



Approximate Scale  
Scale: 1" = 2,000'

Figure 1  
**Vicinity  
Map**

The Sanctuary at Meridian Ranch (LSC #S224190)

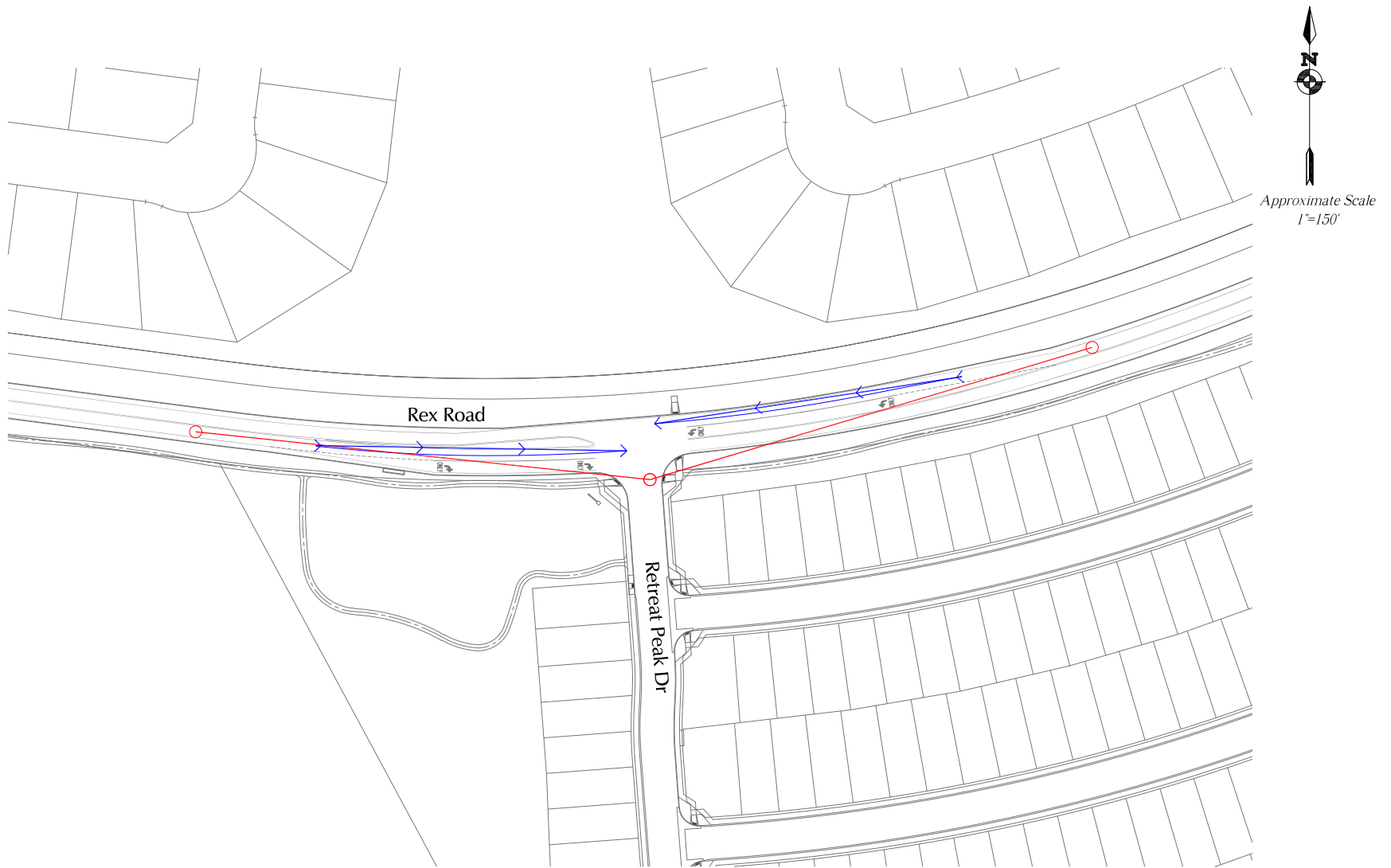


— Sidewalk or trail\*

\*Note: see attached School Pedestrian Plan Figure from "Rolling Hills at Meridian Ranch Traffic Impact Study" (PCD file no. PUDSP199) June 29, 2020

Figure 2  
**Site Plan**

The Sanctuary at Meridian Ranch (LSC #S224190)



ECM Required Stopping Sight Distance (325' from Table 2-17 based on a design speed of 40 mph)



ECM Required Intersection Sight Distance (445' from Table 2-21 based on a design speed of 40 mph)

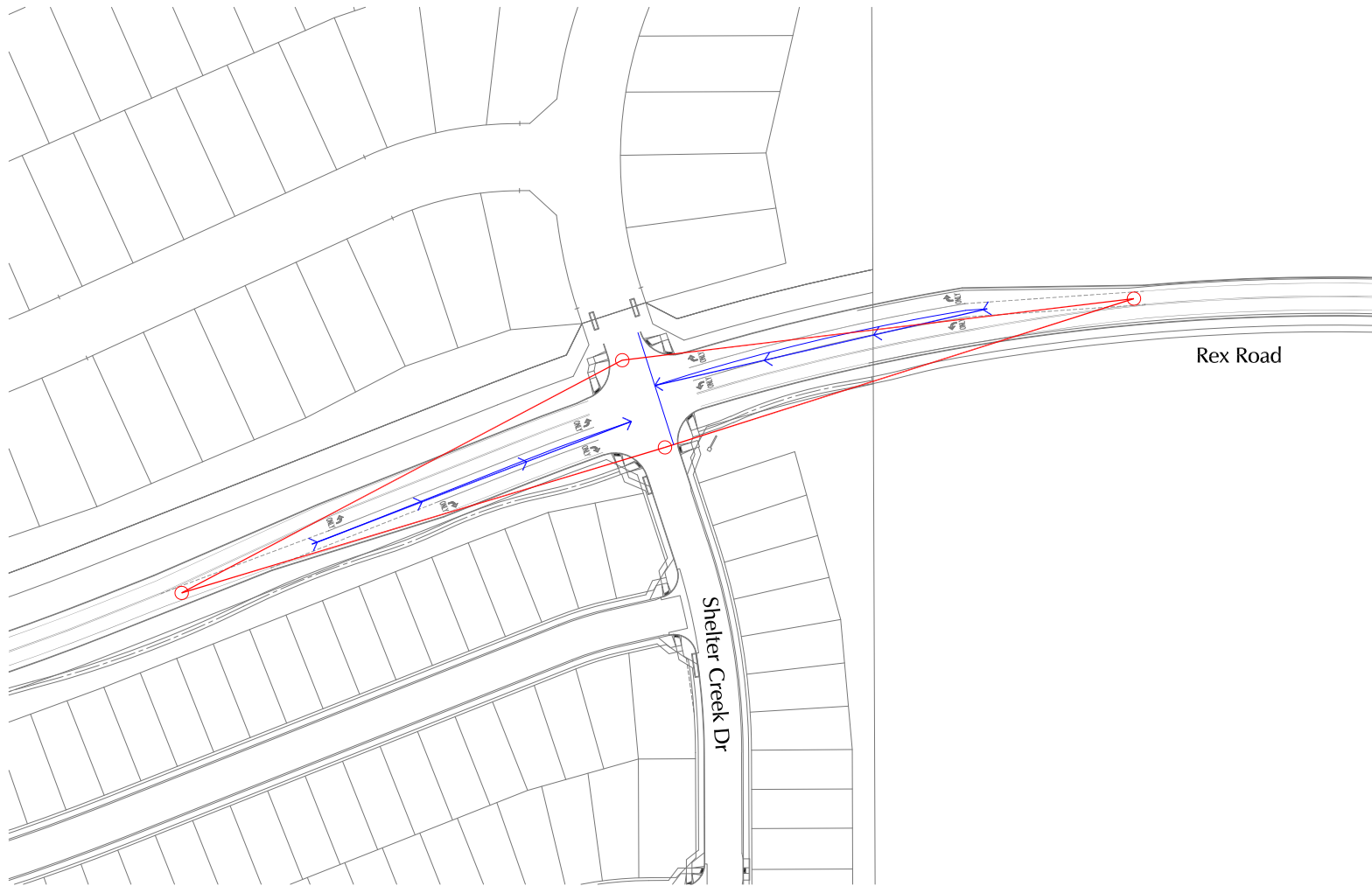
# Figure 3 Sight Distance Analysis Rex/Retreat Peak

The Sanctuary at Meridian Ranch (LSC #S224190)





Approximate Scale  
1"=150'



ECM Required Stopping Sight Distance (305' from  
Table 2-17 based on a design speed of 40 mph.

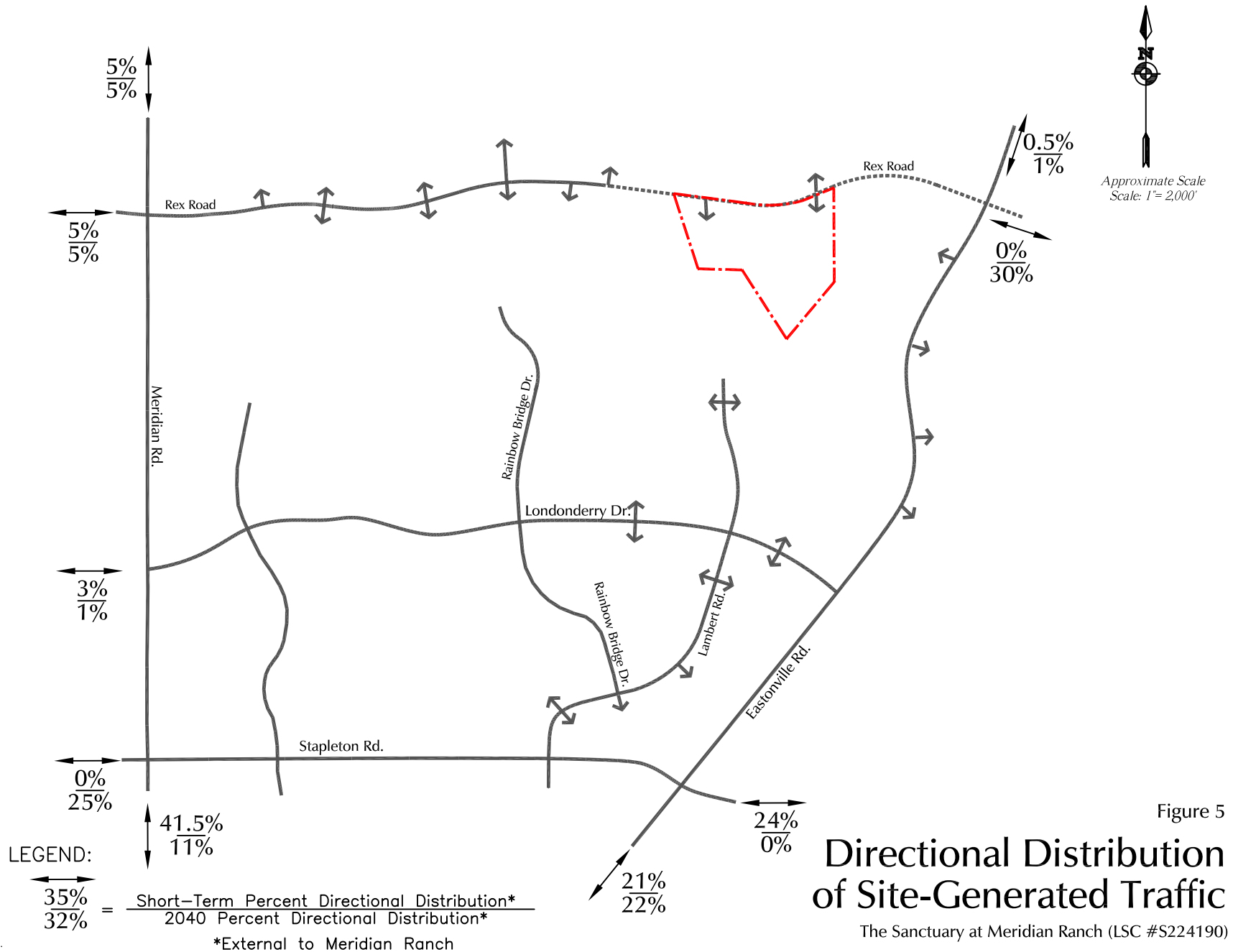


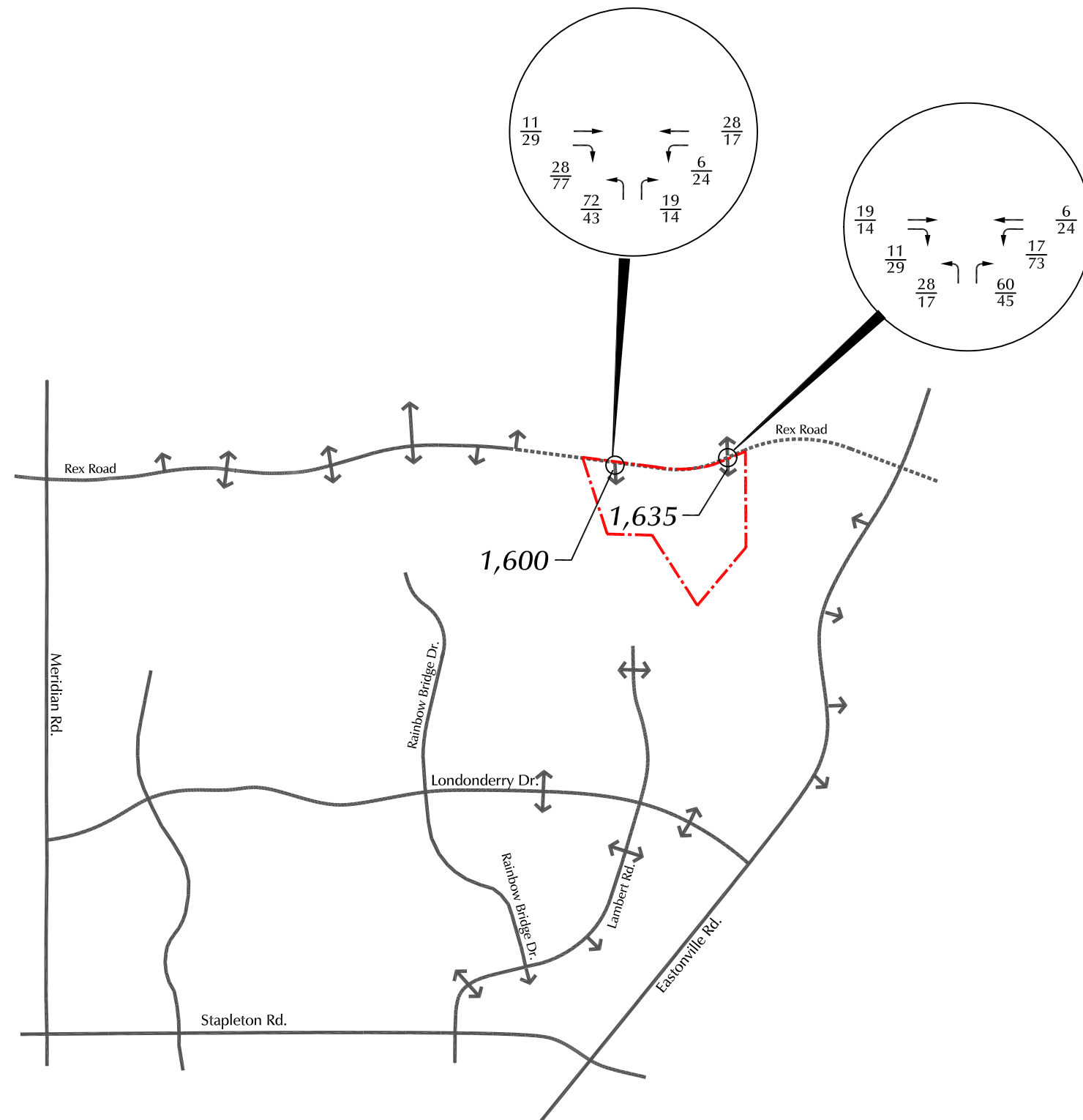
ECM Required Intersection Sight Distance (455'  
from Table 2-21 based on a design speed of 40  
mph.

Figure 4  
**Sight Distance Analysis**  
**Rex/Shelter Creek**

The Sanctuary at Meridian Ranch (LSC #S224190)

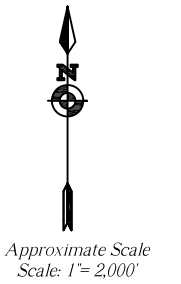
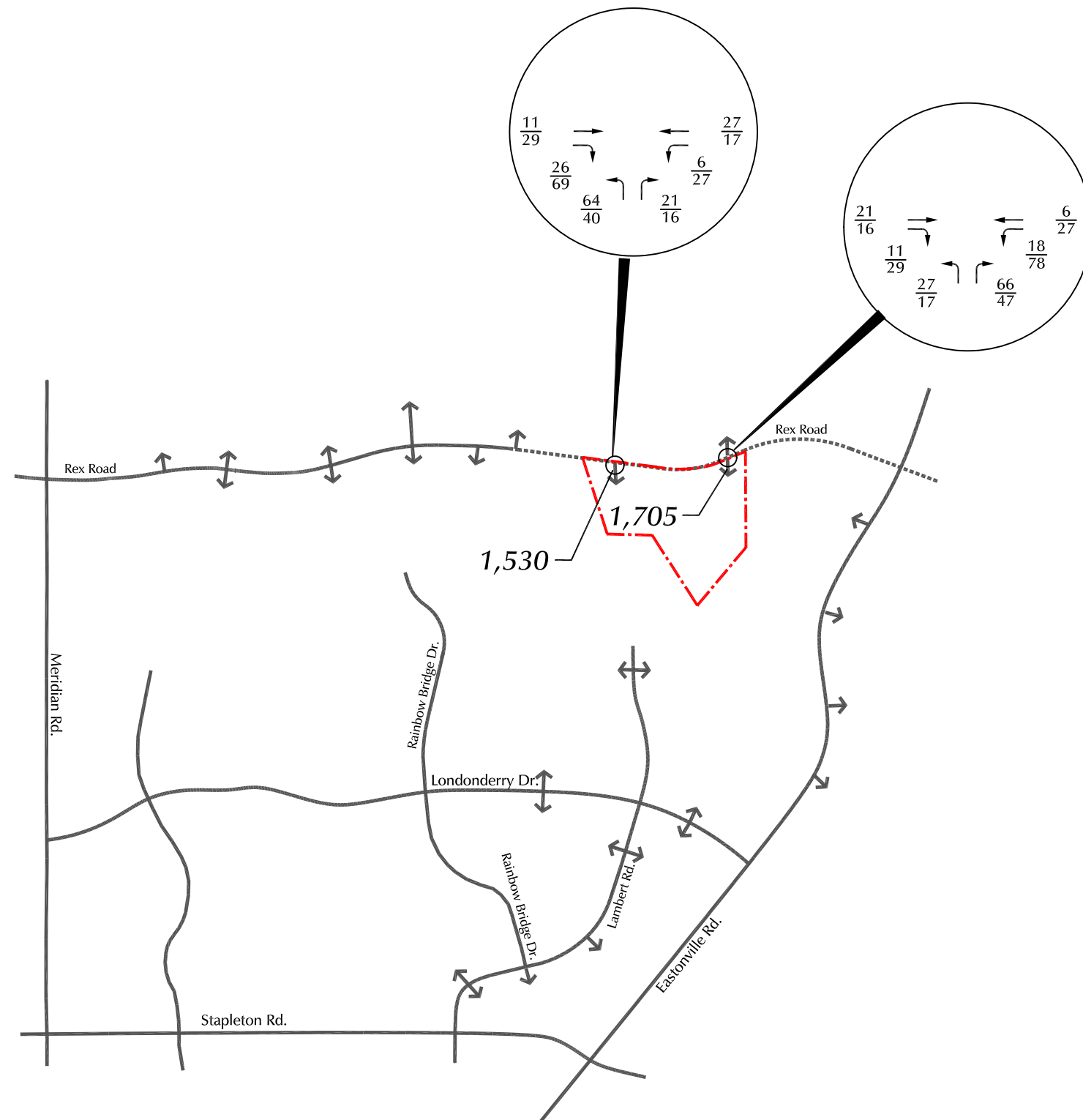






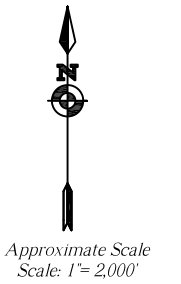
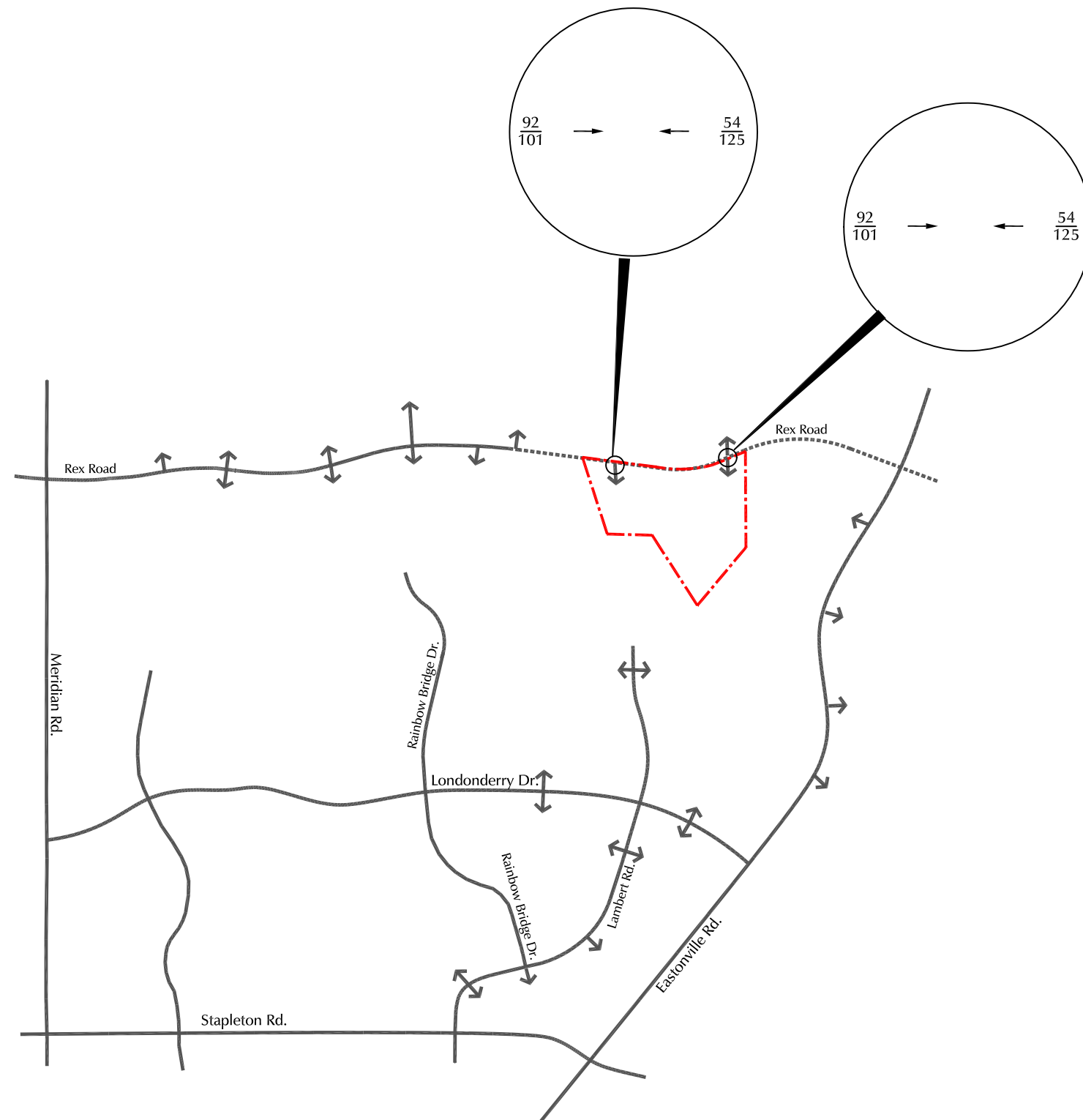
LEGEND:

$\frac{26}{31}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{26}{31}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 1,000 = Average Weekday Traffic (vehicles per day)



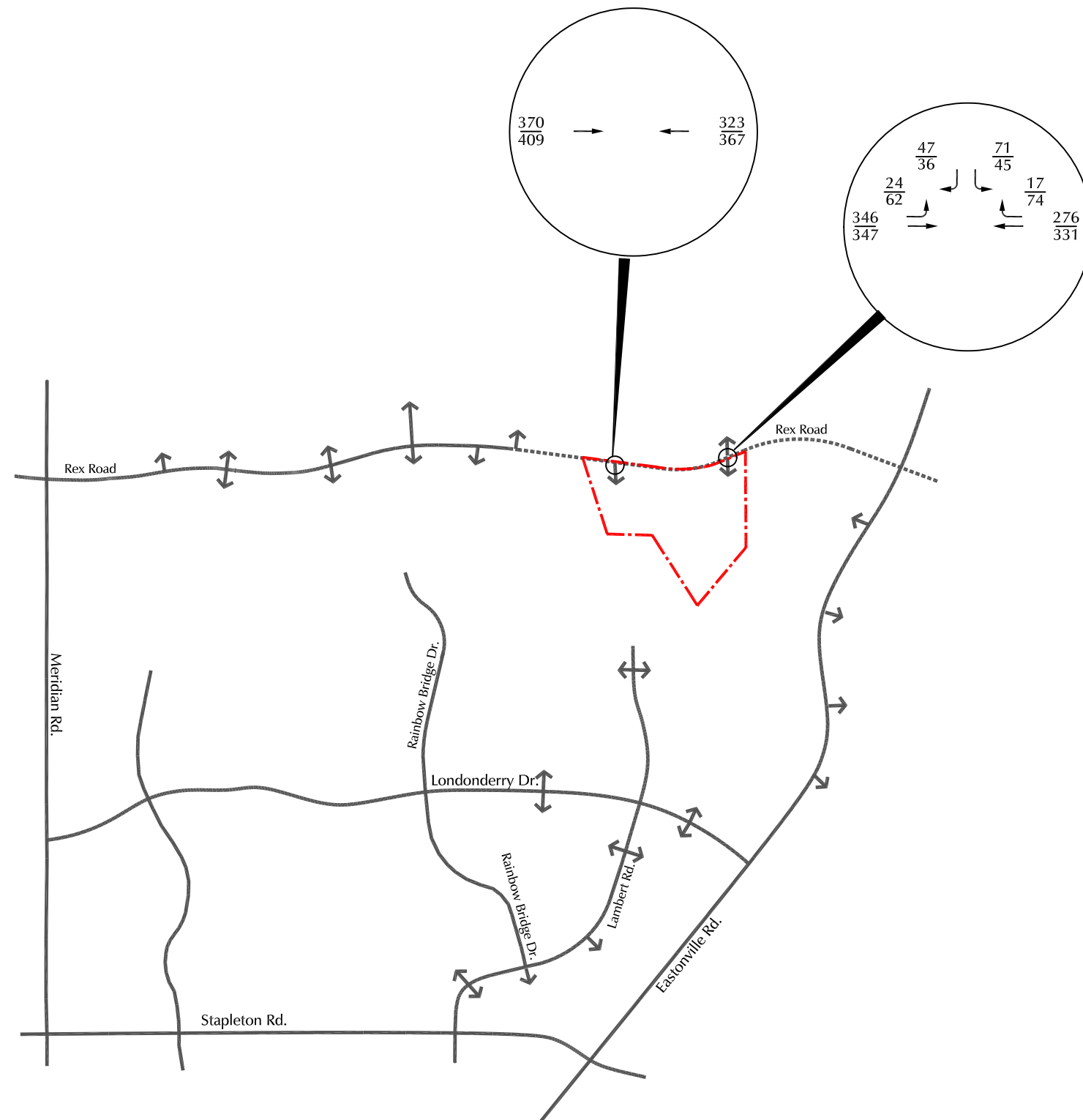
LEGEND:

$\frac{26}{31}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{26}{31}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 1,000 = Average Weekday Traffic (vehicles per day)



LEGEND:

$\frac{26}{31}$  = AM (7:00–8:00am) Weekday Peak–Hour Traffic (vehicles per hour)  
 $\frac{26}{31}$  = PM (4:45–5:45pm) Weekday Peak–Hour Traffic (vehicles per hour)  
 1,000 = Average Weekday Traffic (vehicles per day)



LEGEND:

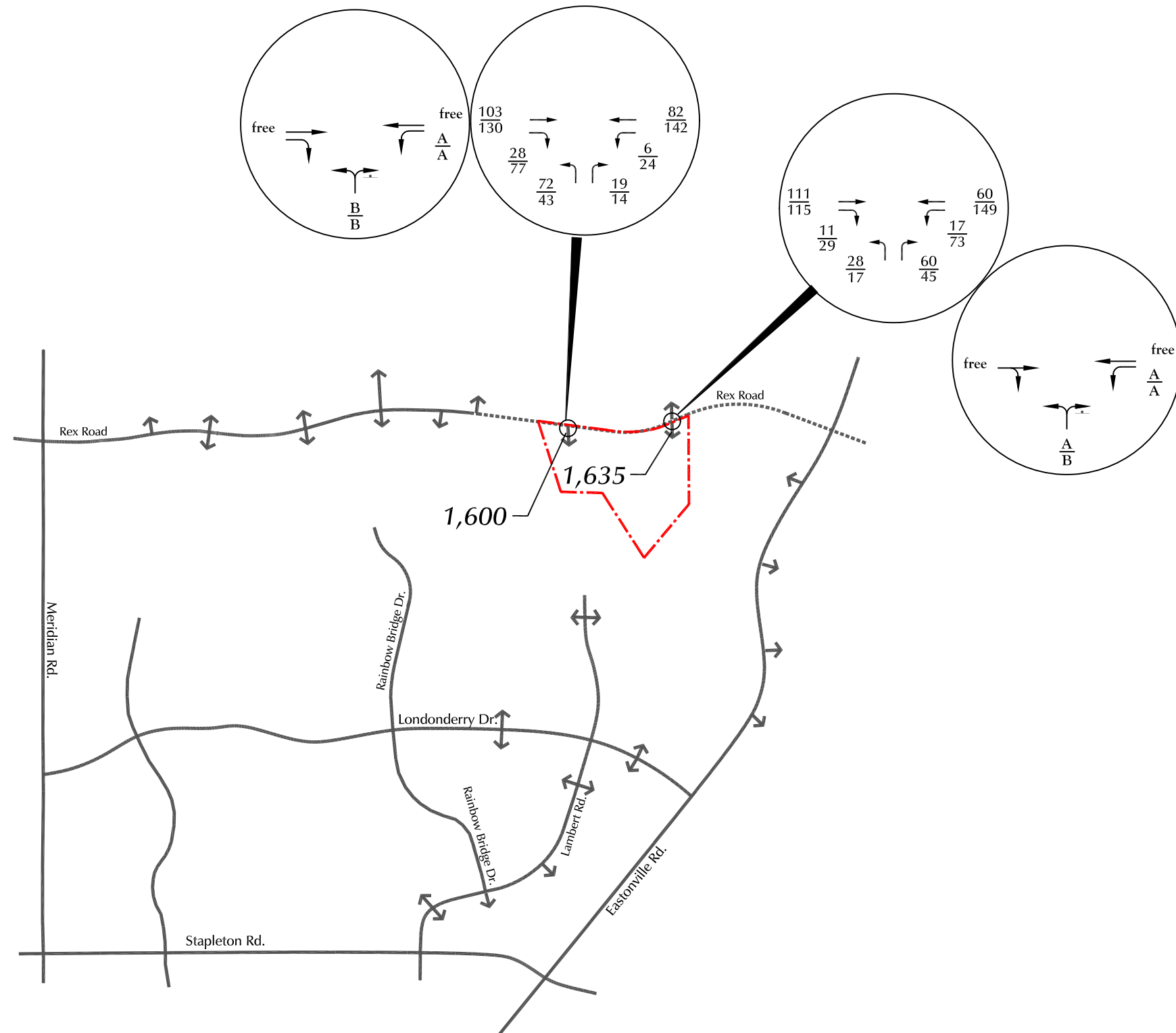
$\frac{26}{31}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{26}{31}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 1,000 = Average Weekday Traffic (vehicles per day)

Figure 9

2041

Background Traffic

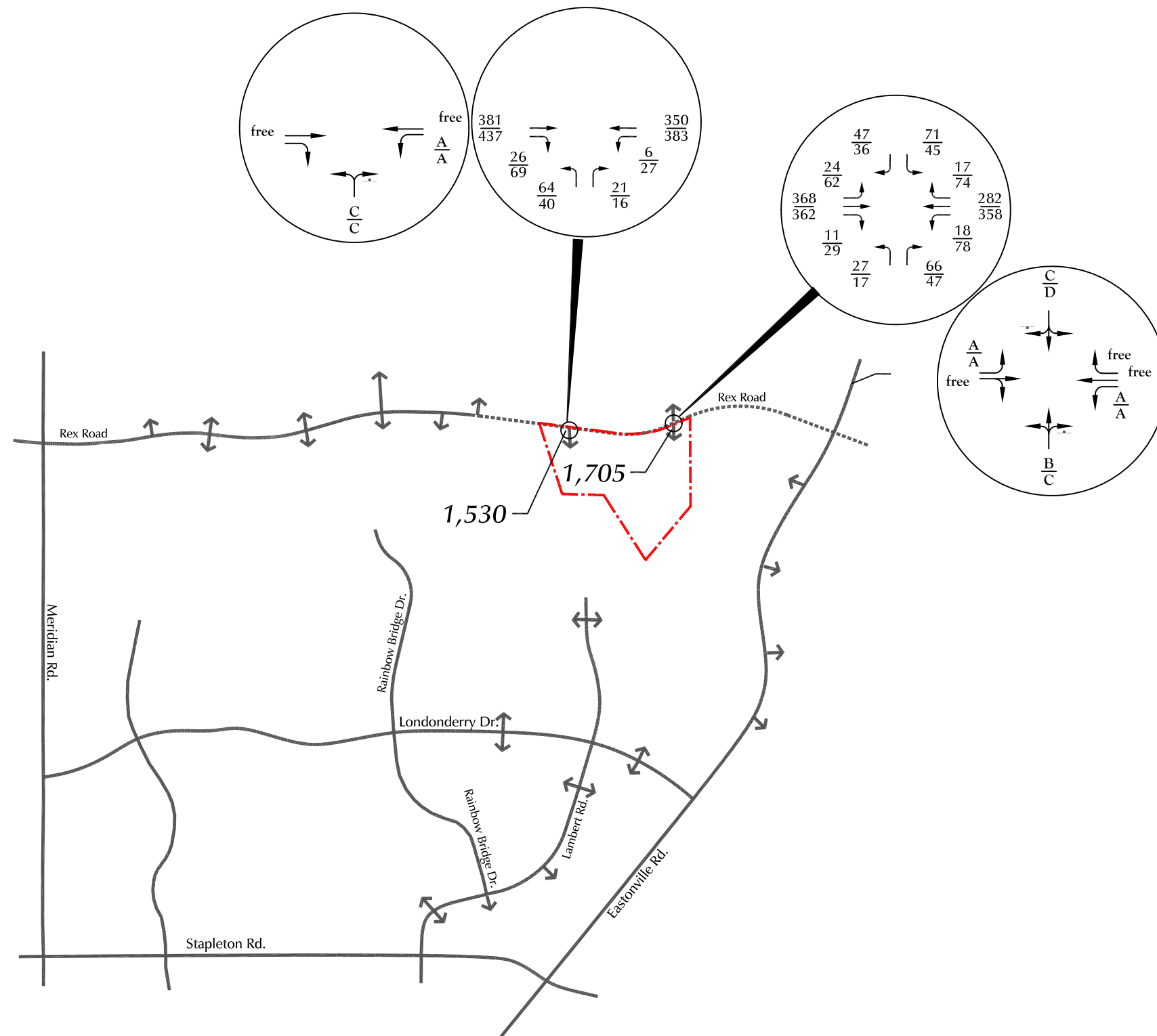
The Sanctuary at Meridian Ranch (LSC #S224190)



LEGEND:

$\frac{26}{31}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{26}{31}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 1,000 = Average Weekday Traffic (vehicles per day)  
 $\frac{A}{B}$  =  $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

• = Stop Sign

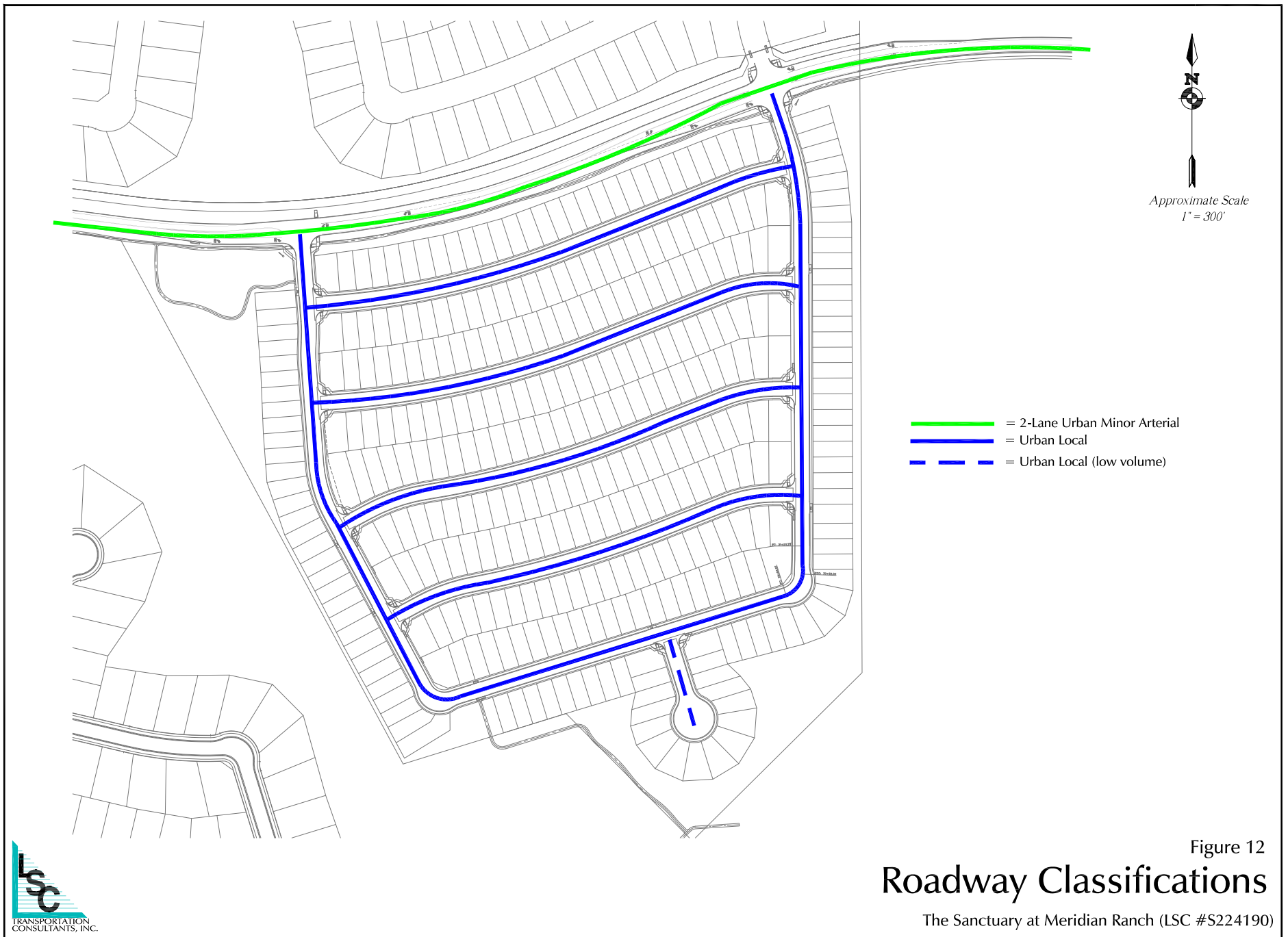


LEGEND:

$\frac{26}{31}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 PM Weekday Peak-Hour Traffic (vehicles per hour)  
 1,000 = Average Weekday Traffic (vehicles per day)

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

• = Stop Sign










# Levels of Service

---






HCM 6th TWSC  
4: Retreat Peak Dr & Rex Road

Short-Term Total Traffic  
AM Peak Hour

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	103	28	6	82	72	19
Future Vol, veh/h	103	28	6	82	72	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	33	7	96	85	22
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	154	0	248	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	110	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1426	-	740	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	915	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1426	-	736	910
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	910	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		10.5	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	767	-	-	1426	-	
HCM Lane V/C Ratio	0.14	-	-	0.005	-	
HCM Control Delay (s)	10.5	-	-	7.5	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.5	-	-	0	-	






HCM 6th TWSC  
5: Shelter Creek Dr & Rex Road

Short-Term Total Traffic  
AM Peak Hour

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	11	17	60	28	60
Future Vol, veh/h	111	11	17	60	28	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	13	20	71	33	71
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	144	0	249	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1438	-	739	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	914	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1438	-	729	910
Mov Cap-2 Maneuver	-	-	-	-	741	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	901	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		9.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	848	-	-	1438	-	
HCM Lane V/C Ratio	0.122	-	-	0.014	-	
HCM Control Delay (s)	9.8	-	-	7.5	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.4	-	-	0	-	






HCM 6th TWSC  
4: Retreat Peak Dr & Rex Road

Short-Term Total Traffic  
PM Peak Hour

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	77	24	142	43	14
Future Vol, veh/h	130	77	24	142	43	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	153	91	28	167	51	16
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	244	0	422	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1322	-	588	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	814	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1322	-	576	842
Mov Cap-2 Maneuver	-	-	-	-	576	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	797	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.1		11.5		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	624	-	-	1322	-	
HCM Lane V/C Ratio	0.107	-	-	0.021	-	
HCM Control Delay (s)	11.5	-	-	7.8	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-	






HCM 6th TWSC  
5: Shelter Creek Dr & Rex Road

Short-Term Total Traffic  
PM Peak Hour

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	29	73	149	17	45
Future Vol, veh/h	115	29	73	149	17	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	34	86	175	20	53
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	169	0	499	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1409	-	531	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1409	-	499	894
Mov Cap-2 Maneuver	-	-	-	-	564	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	672	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	2.5		10.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	770	-	-	1409	-	
HCM Lane V/C Ratio	0.095	-	-	0.061	-	
HCM Control Delay (s)	10.2	-	-	7.7	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-	








HCM 6th TWSC  
4: Retreat Peak Dr & Rex Road

2041 Total Traffic  
AM Peak Hour

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	381	26	6	350	64	21
Future Vol, veh/h	381	26	6	350	64	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	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	401	27	6	368	67	22
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	428	0	795	415
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	380	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1131	-	357	637
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	355	637
Mov Cap-2 Maneuver	-	-	-	-	355	-
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	688	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.1		16.6		
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	399	-	-	1131	-	
HCM Lane V/C Ratio	0.224	-	-	0.006	-	
HCM Control Delay (s)	16.6	-	-	8.2	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %tile Q(veh)	0.8	-	-	0	-	

HCM 6th TWSC  
5: Shelter Creek Dr & Rex Road

2041 Total Traffic  
AM Peak Hour

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	368	11	18	282	17	27	0	66	71	0	47
Future Vol, veh/h	24	368	11	18	282	17	27	0	66	71	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	0	-	205	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	387	12	19	297	18	28	0	69	75	0	49






Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	315	0	0	399	0	0	812	796	393	813	784	297
Stage 1	-	-	-	-	-	-	443	443	-	335	335	-
Stage 2	-	-	-	-	-	-	369	353	-	478	449	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1160	-	-	298	320	656	297	325	742
Stage 1	-	-	-	-	-	-	594	576	-	679	643	-
Stage 2	-	-	-	-	-	-	651	631	-	568	572	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1245	-	-	1160	-	-	271	308	656	258	313	742
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	308	-	258	313	-
Stage 1	-	-	-	-	-	-	582	564	-	665	633	-
Stage 2	-	-	-	-	-	-	598	621	-	498	561	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.5			14.8			20.9		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	464	1245	-	-	1160	-	-	349
HCM Lane V/C Ratio	0.211	0.02	-	-	0.016	-	-	0.356
HCM Control Delay (s)	14.8	8	-	-	8.2	-	-	20.9
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	1.6

HCM 6th TWSC  
4: Retreat Peak Dr & Rex Road








2041 Total Traffic  
PM Peak Hour

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	437	69	27	383	40	16
Future Vol, veh/h	437	69	27	383	40	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	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	460	73	28	403	42	17
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	533	0	956	497
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	459	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1035	-	286	573
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	636	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1035	-	278	573
Mov Cap-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	619	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		18.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	326	-	-	1035	-	
HCM Lane V/C Ratio	0.181	-	-	0.027	-	
HCM Control Delay (s)	18.5	-	-	8.6	-	
HCM Lane LOS	C	-	-	A	-	
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-	



HCM 6th TWSC  
5: Shelter Creek Dr & Rex Road

2041 Total Traffic  
PM Peak Hour

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	362	29	78	358	74	17	0	47	45	0	36
Future Vol, veh/h	62	362	29	78	358	74	17	0	47	45	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	0	-	205	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	381	31	82	377	78	18	0	49	47	0	38
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	455	0	0	412	0	0	1126	1146	397	1092	1083	377
Stage 1	-	-	-	-	-	-	527	527	-	541	541	-
Stage 2	-	-	-	-	-	-	599	619	-	551	542	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1106	-	-	1147	-	-	182	199	652	192	217	670
Stage 1	-	-	-	-	-	-	535	528	-	525	521	-
Stage 2	-	-	-	-	-	-	488	480	-	519	520	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1106	-	-	1147	-	-	155	174	652	160	190	670
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	174	-	160	190	-
Stage 1	-	-	-	-	-	-	503	497	-	494	484	-
Stage 2	-	-	-	-	-	-	427	446	-	451	489	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			1.3			17.6			27.8		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	352	1106	-	-	1147	-	-	242				
HCM Lane V/C Ratio	0.191	0.059	-	-	0.072	-	-	0.352				
HCM Control Delay (s)	17.6	8.5	-	-	8.4	-	-	27.8				
HCM Lane LOS	C	A	-	-	A	-	-	D				
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0.2	-	-	1.5				

## Appendix Table 1

---

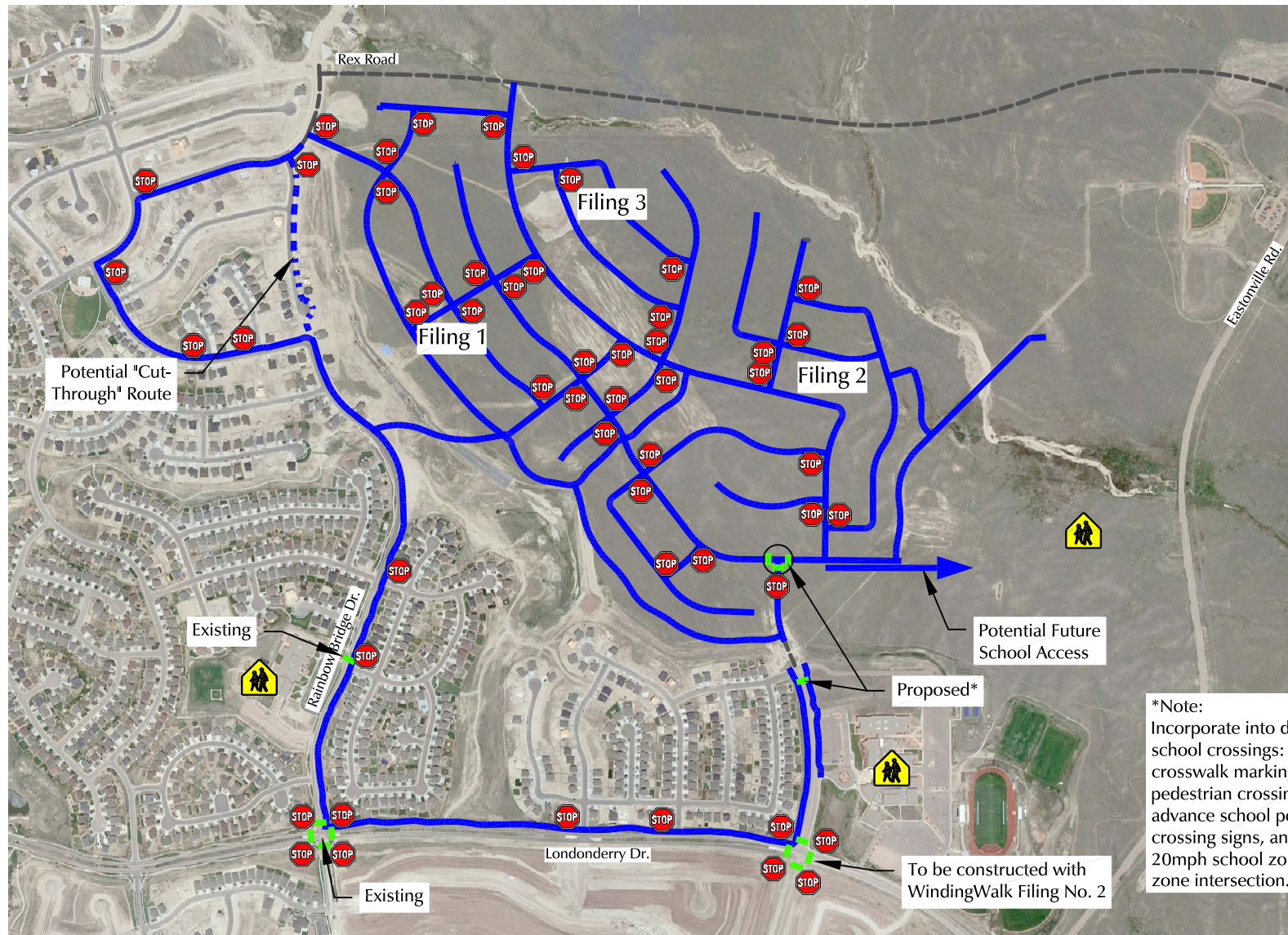
**Appendix Table 1**  
**Area Traffic Impact Studies by LSC**  
**Sanctuary at Meridian Ranch**

<b>Study</b>	<b>Date</b>
<b>Meridian Ranch</b>	
Meridian Ranch Sketch Plan TIA	April 11, 2011
Meridian Ranch Filing 11 Updated TIA	November 26, 2013
Stonebridge at Meridian Ranch Filing No. 1 Updated TIA	April 23, 2014
Stonebridge at Meridian Ranch Transportation Memorandum	July 28, 2015
Meridian Ranch Filing 8 Updated TIA	December 23, 2014
Meridian Ranch Filing 9 Updated TIA	May 21, 2015
Meridian Ranch Sketch Plan 2015 Amendment TIA	July 30, 2015
The Vistas at Meridian Ranch TIA	March 24, 2016
Meridian Ranch Estates Filing No. 2 Transportation Memorandum	August 27, 2015
The Vistas at Meridian Ranch Updated Transportation Memorandum	June 20, 2017
Londonderry Drive Pedestrian Operations and Safety Study	February 8, 2017
Stonebridge Filing 3 at Meridian Ranch Updated TIA	March 20, 2017
Meridian Ranch Sketch Plan 2017 Amendment TIA	October 3, 2017
WindingWalk at Meridian Ranch and The Enclave at Stonebridge at Meridian Ranch Updated Traffic Impact Analysis	May 10, 2018
Rolling Hills Ranch at Meridian Ranch PUDSP Traffic Impact Analysis	June 29, 2020
The Estates at Rolling Hills Ranch Filing No. 1 Traffic Impact Analysis	May 13, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 1 Traffic Impact Analysis	July 14, 2020
The Estates at Rolling Hills Ranch Filing No. 2 Traffic Impact Study	October 8, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 2 Transportation Memorandum	December 29, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 3 Transportation Memorandum	June 29, 2021
Meridian Ranch 2021 Sketch Plan Amendment Traffic Impact Study	June 25, 2021
<b>Grandview Reserve</b>	
Grandview Reserve Updated Master TIA	December 5, 2020
Grandview Reserve Phase 1 Updated TIA	May 9, 2022
<b>Waterbury/4-Way Ranch</b>	
Waterbury PUD Development Plan Updated TIA	January 10, 2013
Waterbury Filing Nos. 1 and 2 TIA	March 11, 2022
<b>Meadowlake Ranch</b>	
Meadowlake Ranch Traffic Impact Analysis	May 29, 2019
<b>Latigo</b>	
Latigo Preserve Filing No. 10 TIA	March 31, 2022
<i>Source: LSC Transportation Consultants, Inc. (June 2022)</i>	

## Figure 3 School Pedestrian Routes

---

- from the *Rolling Hills Ranch PUDSP Traffic Impact Analysis*



Approximate Scale  
Scale: 1"= 1,000'

LEGEND:



- = Pedestrian Route
- = Crosswalk
-  = Stop Sign
-  = School

Figure 3

# School Pedestrian Routes

Rolling Hills at Meridian Ranch Filings 1-3 (LSC #194180)

# Excerpt from the 2021 Sketch Plan Amendment TIS Report

Figures taken from this report for reference: (June 2022 notation added)

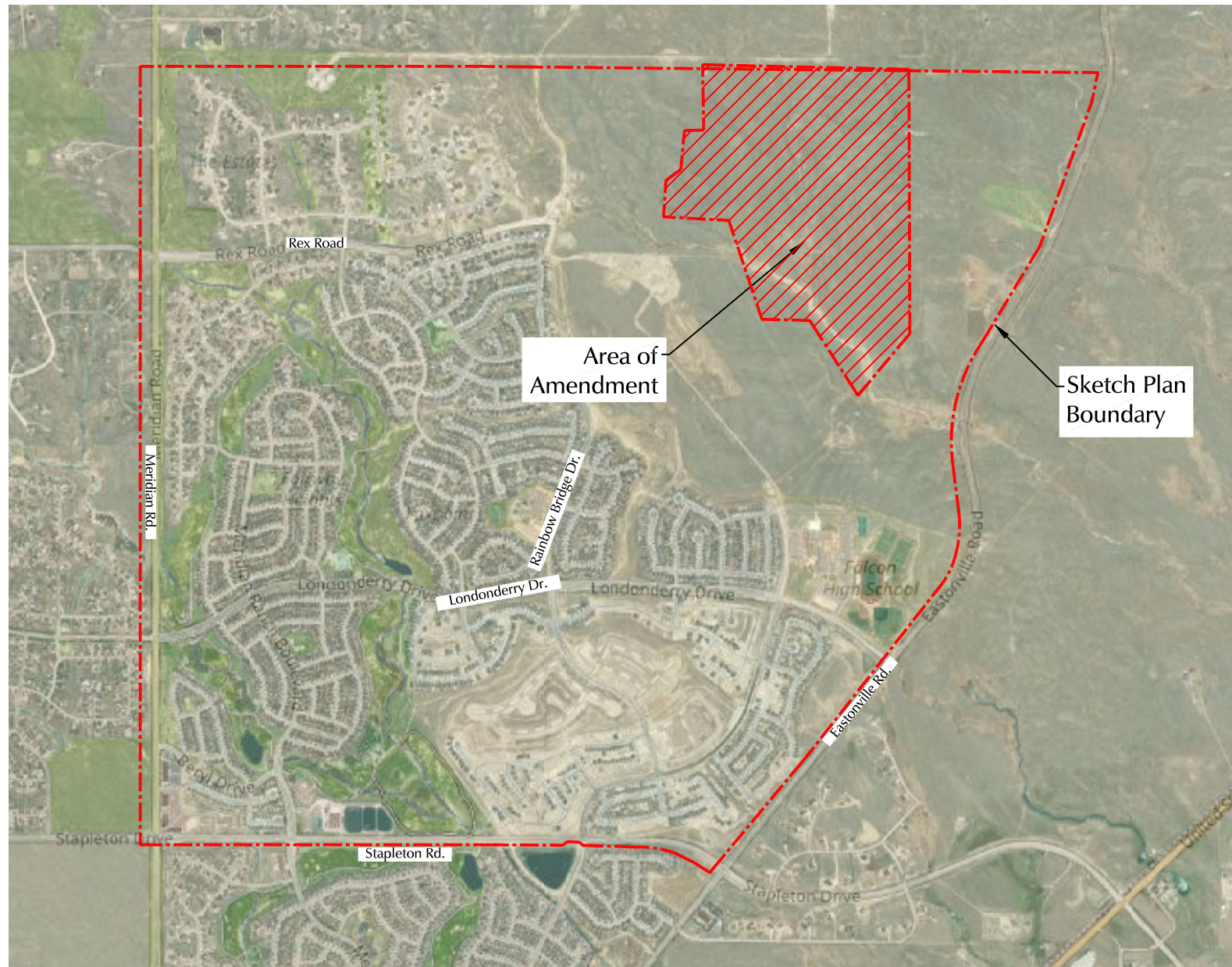


LSC TRANSPORTATION CONSULTANTS, INC.  
2504 East Pikes Peak Avenue, Suite 304  
Colorado Springs, CO 80909  
(719) 633-2868  
FAX (719) 633-5430  
E-mail: [lsc@lsctrans.com](mailto:lsc@lsctrans.com)  
Website: <http://www.lsctrans.com>

Meridian Ranch Sketch Plan 2021 Amendment  
Traffic Impact Analysis  
PCD File No. SKP213  
(LSC #S214250)  
June 25, 2021







Approximate Scale  
Scale: 1" = 2,000'

Figure 1  
**Vicinity  
Map**

Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)

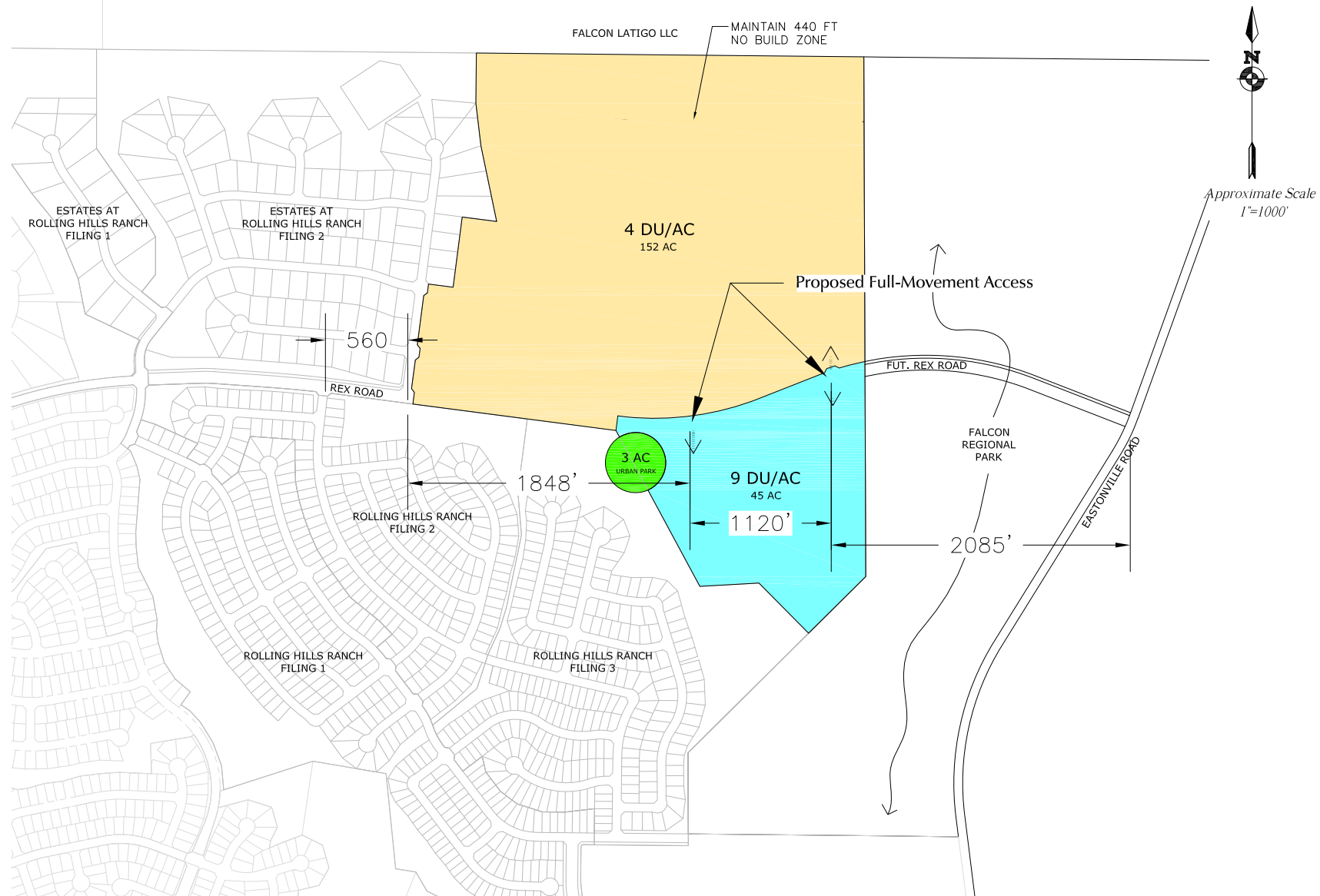


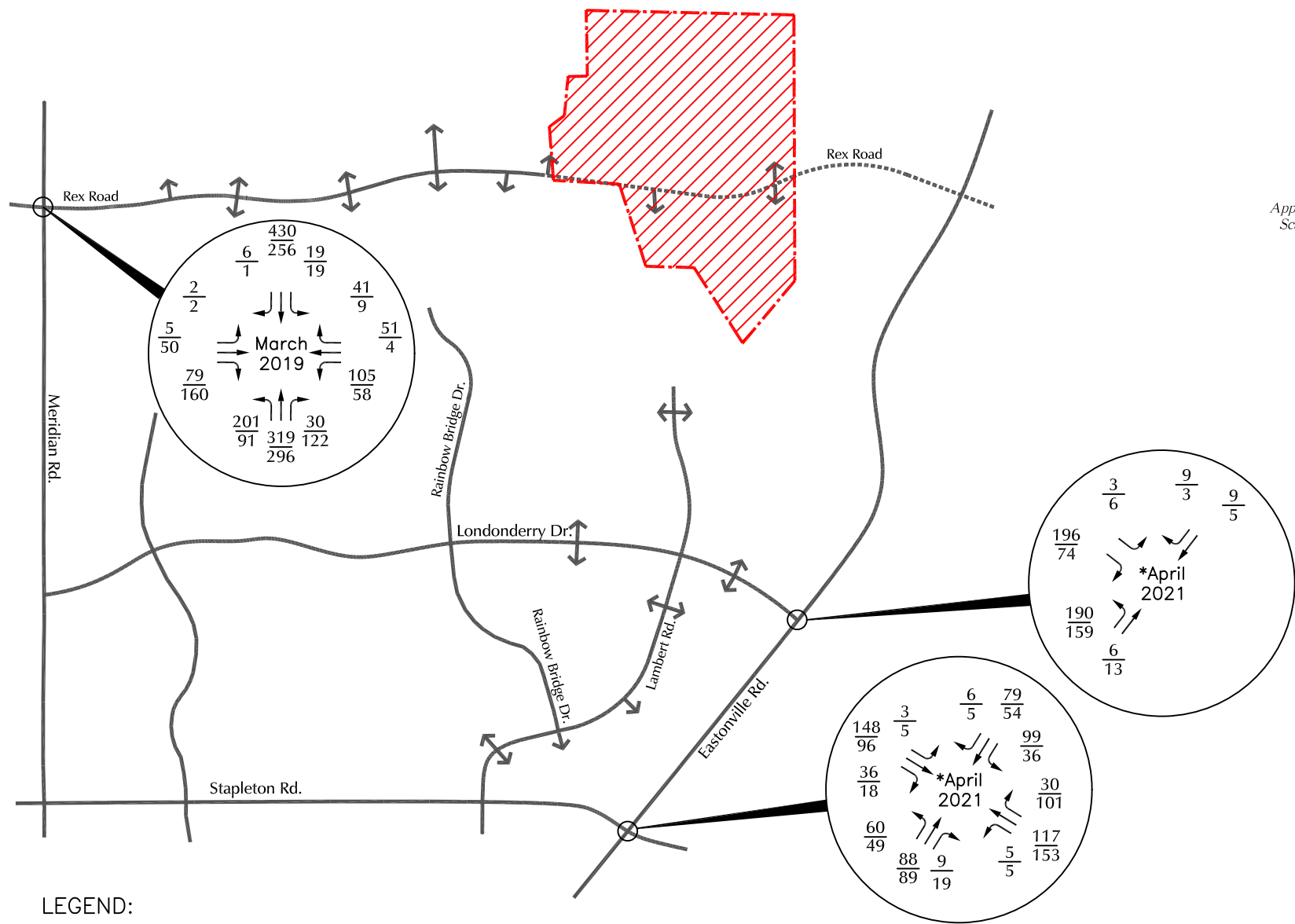
Figure 2  
**Sketch Plan Amendment Area**

Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)





Approximate Scale  
Scale: 1" = 2,000'



LEGEND:

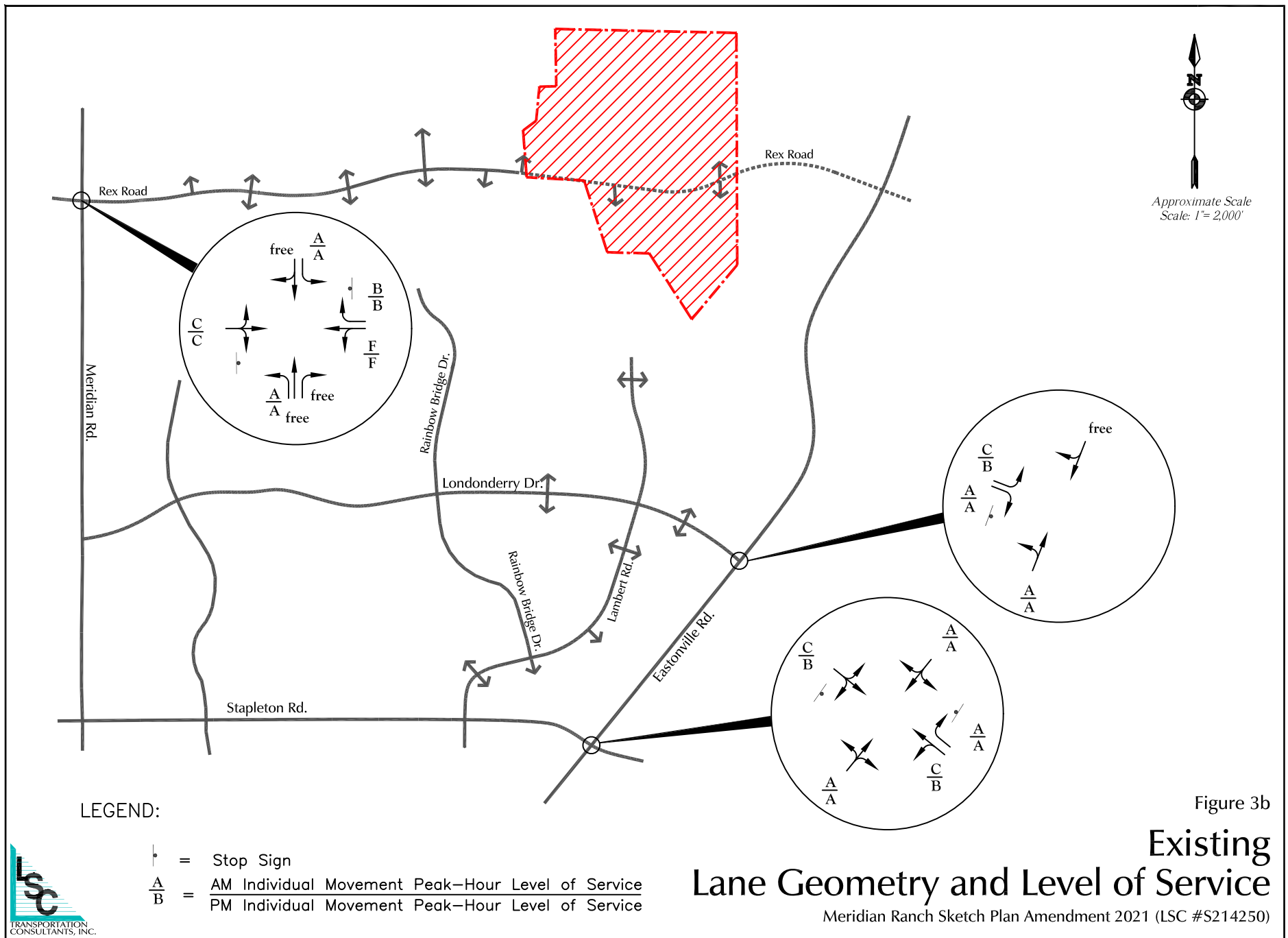
$\frac{XX}{XX}$  =  $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

\*Counts by LSC



Figure 3a  
**Existing  
Traffic**

Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)



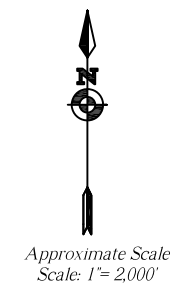
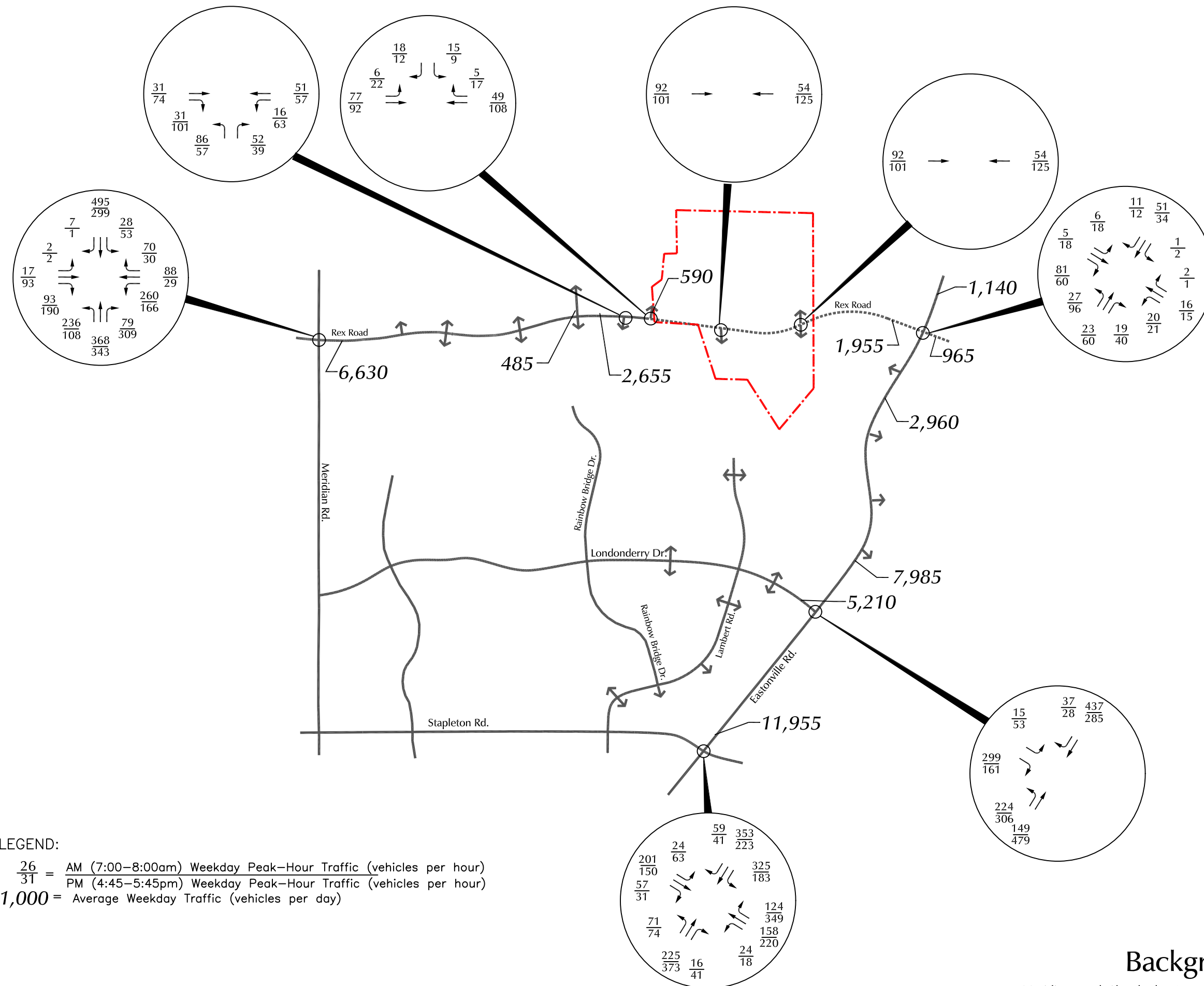
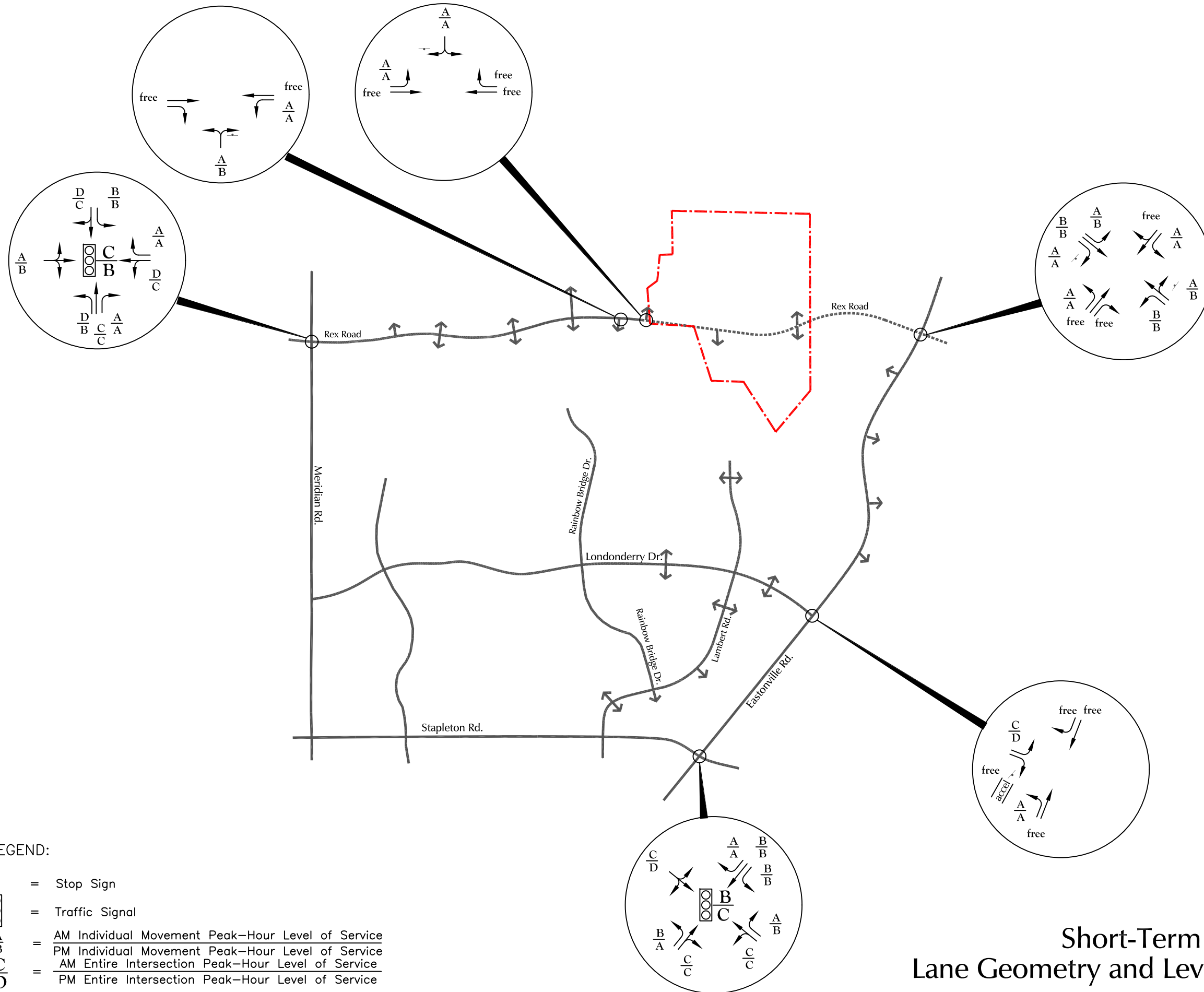


Figure 4a

## Short-Term Background Traffic

Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)



Approximate Scale  
Scale: 1" = 2,000'

Figure 4b  
**Short-Term Background  
Lane Geometry and Level-of-Service**  
Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)

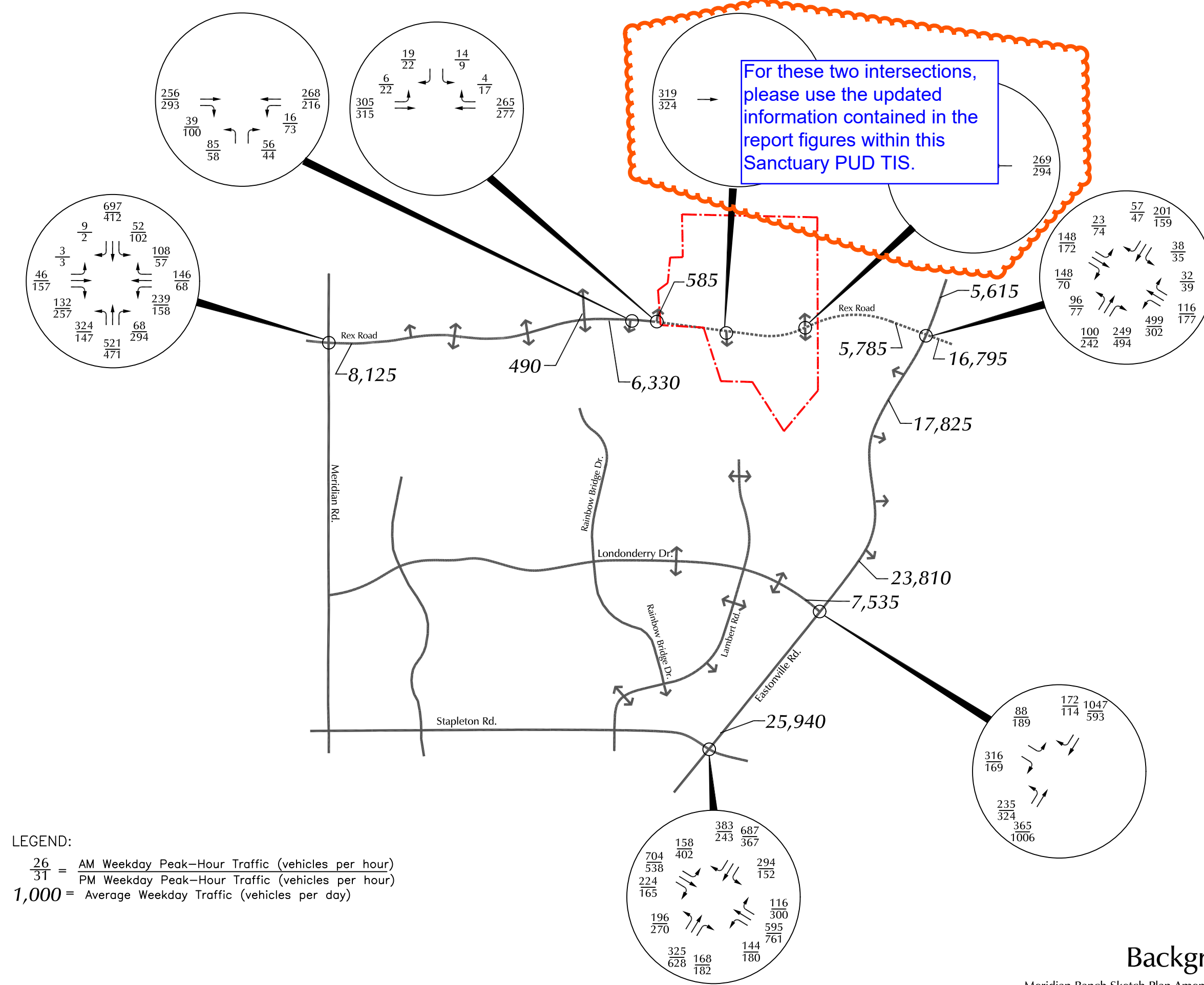


Figure 5a

# 2041 Background Traffic

Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)

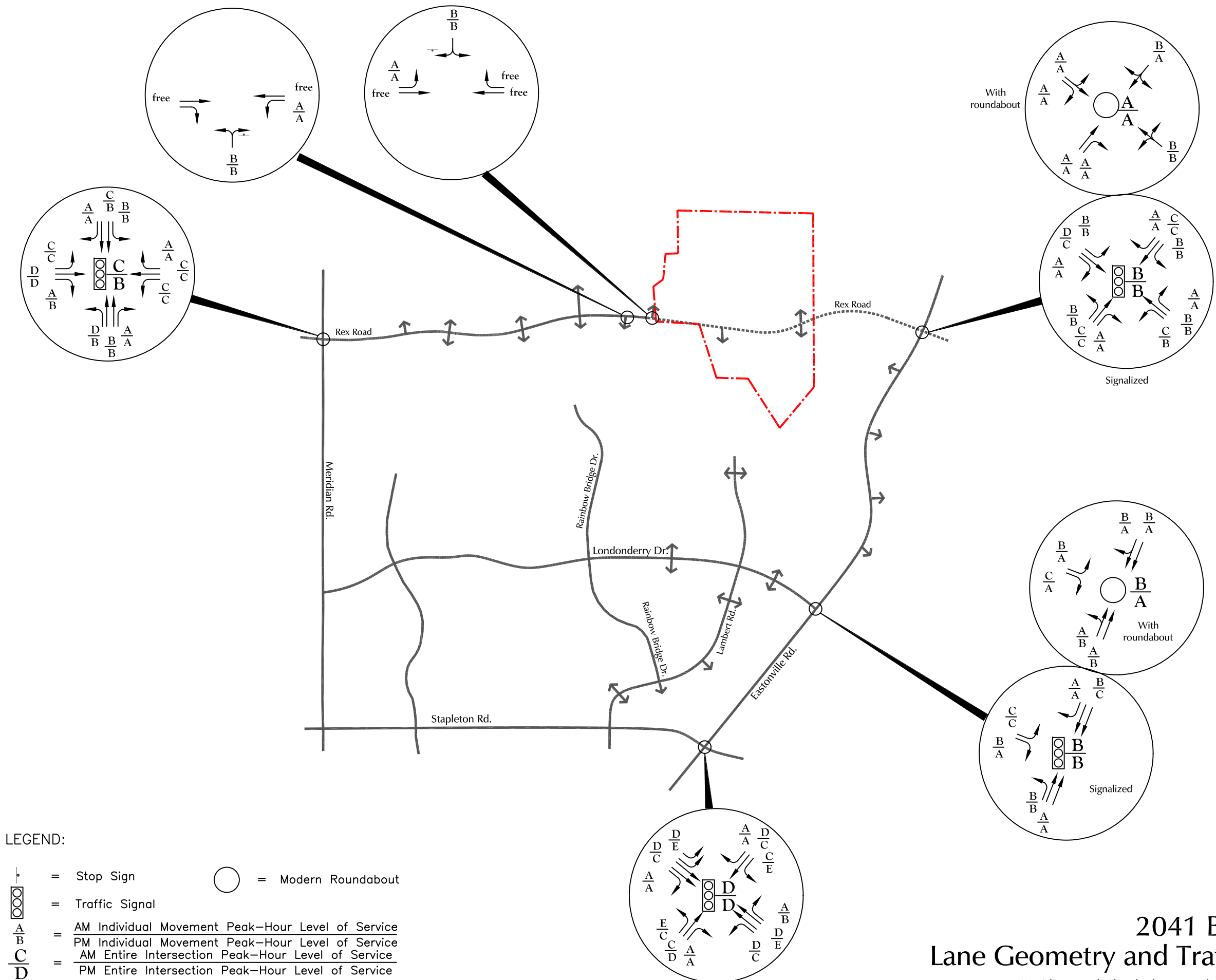
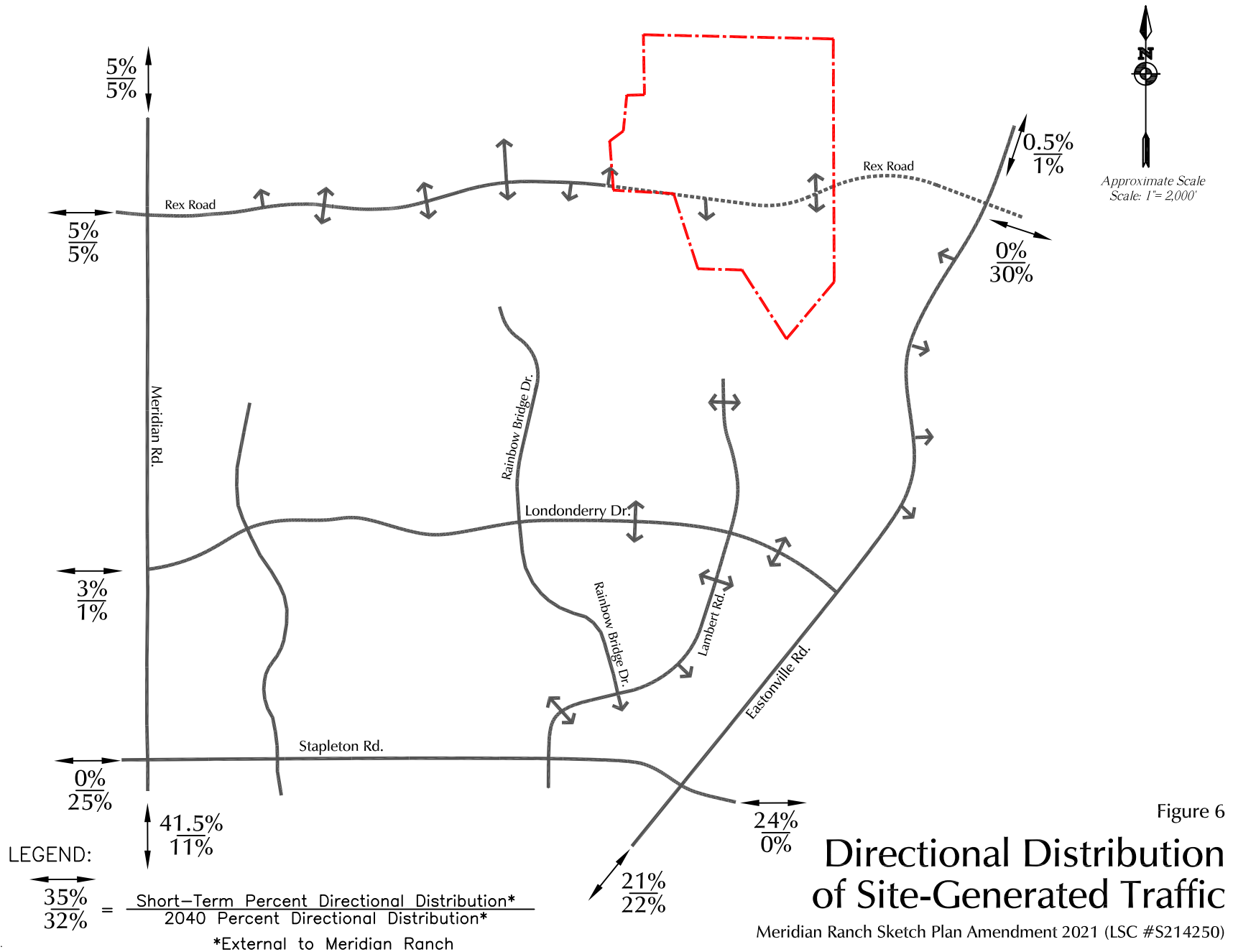


Figure 5b

# 2041 Background Lane Geometry and Traffic Control

Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)



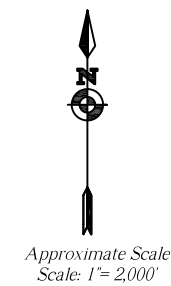
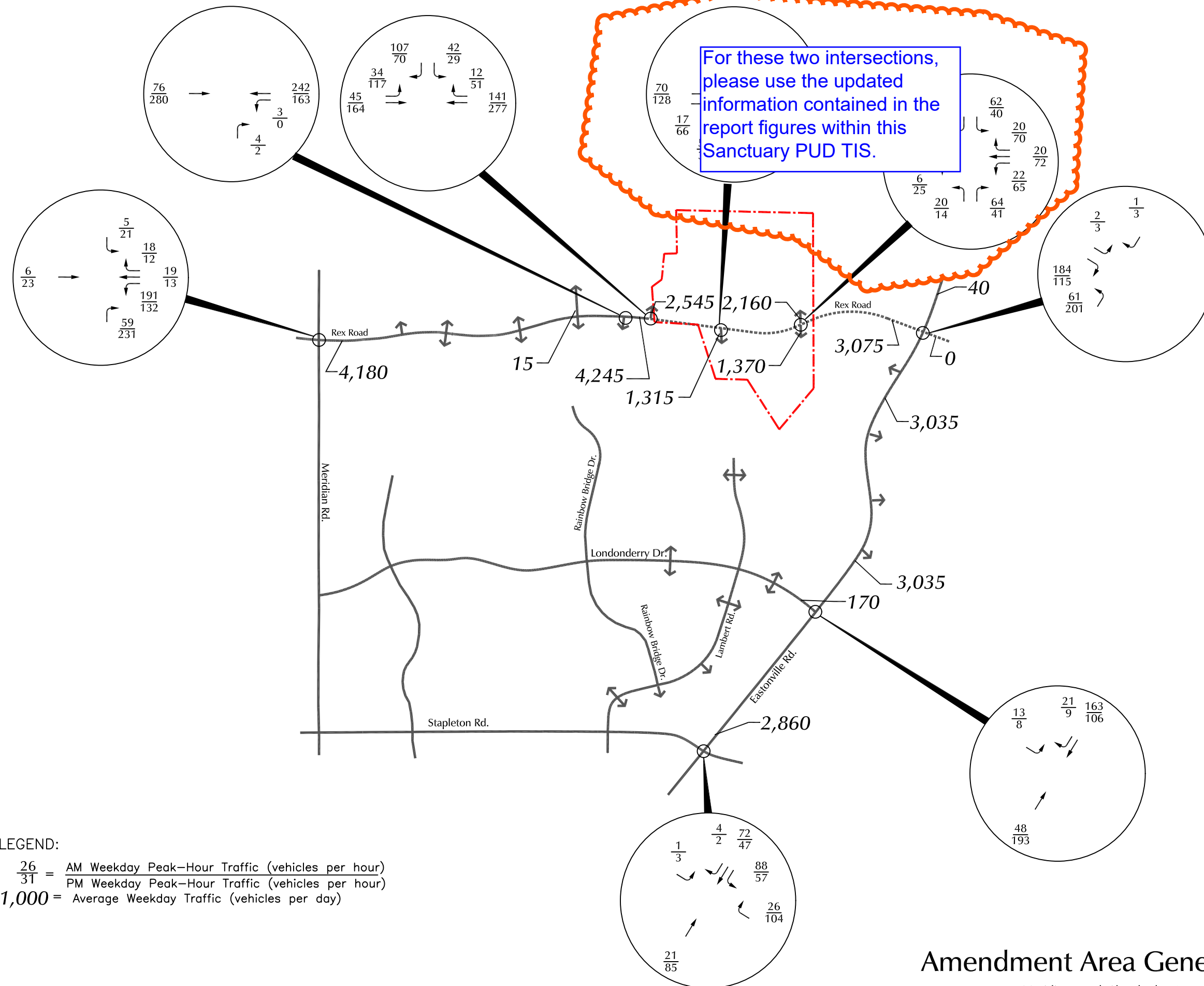


Figure 7  
**Short-Term  
 Amendment Area Generated Traffic**  
 Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)



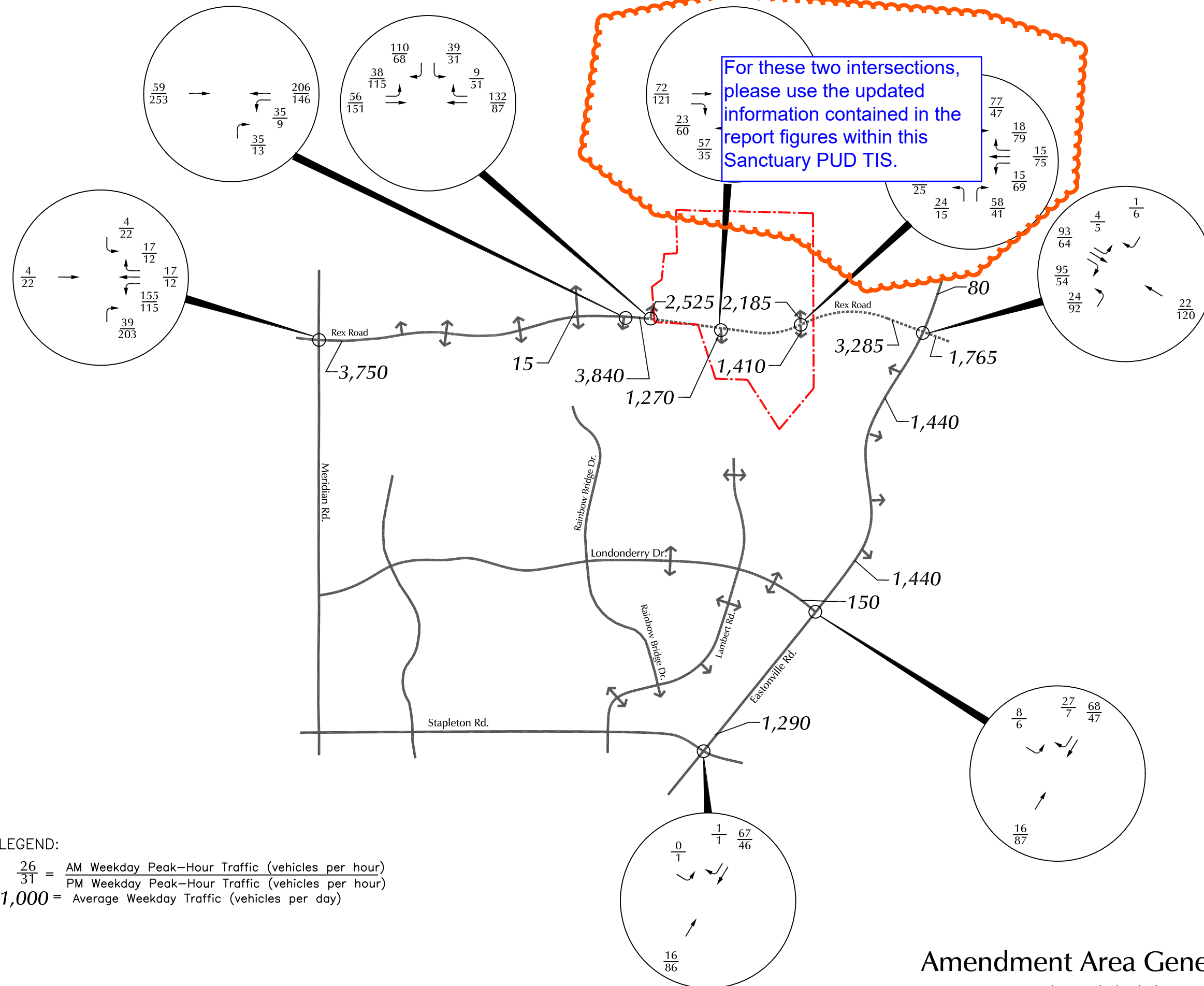


Figure 8a  
**Long-Term  
 Amendment Area Generated Traffic**  
 Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)

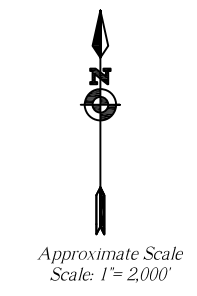
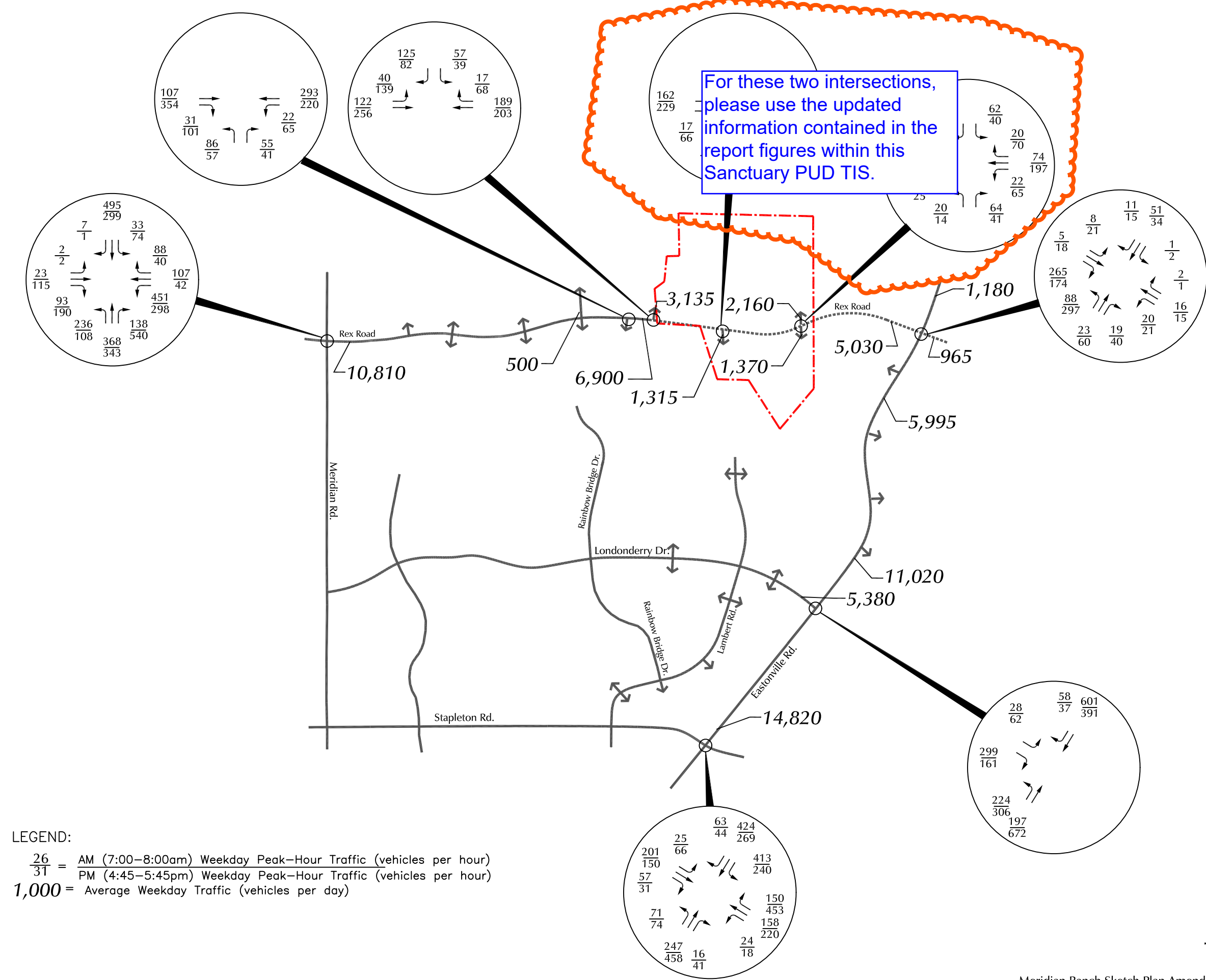


Figure 9a  
**Short-Term  
 Total Traffic**  
 Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)



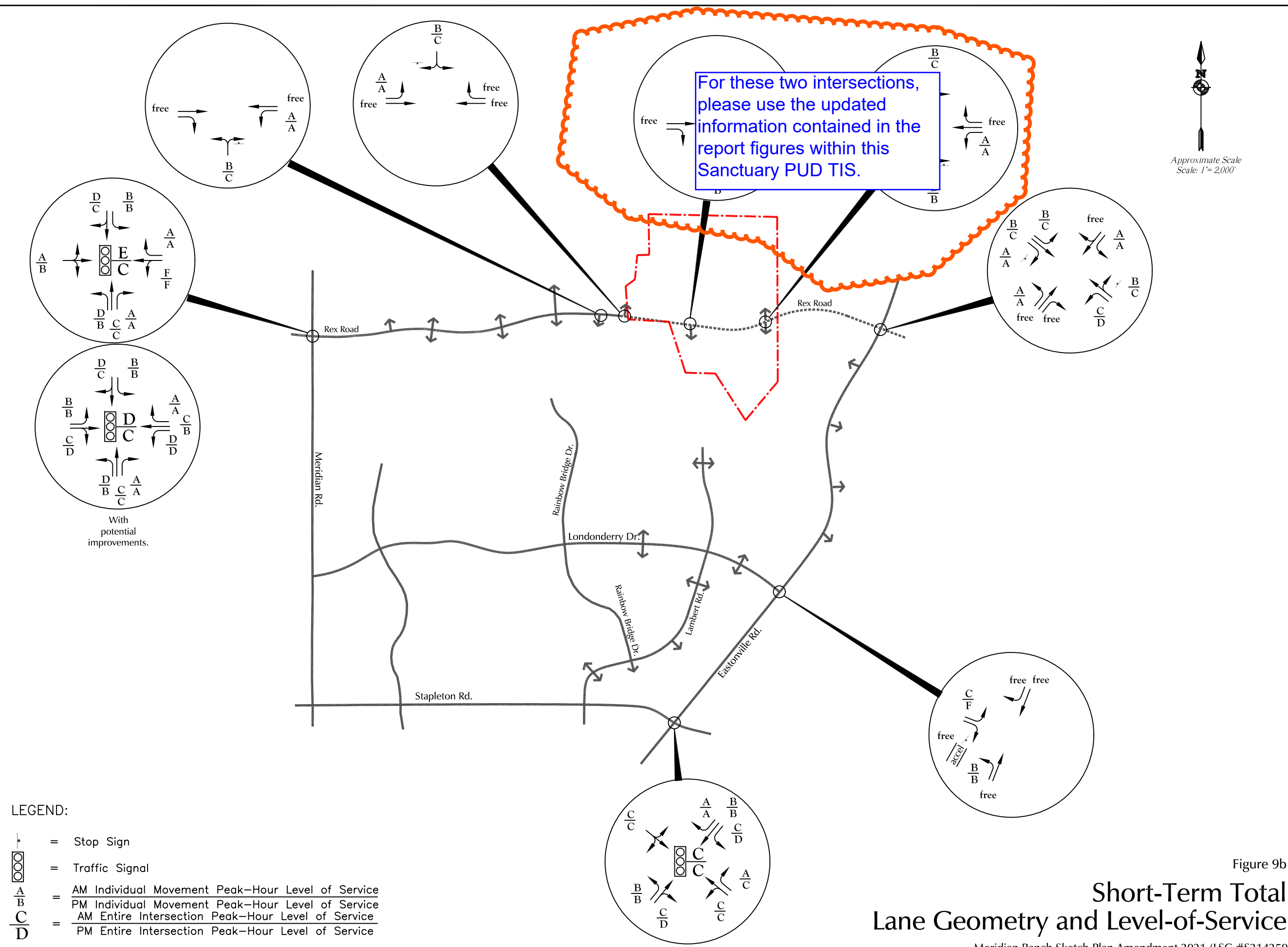
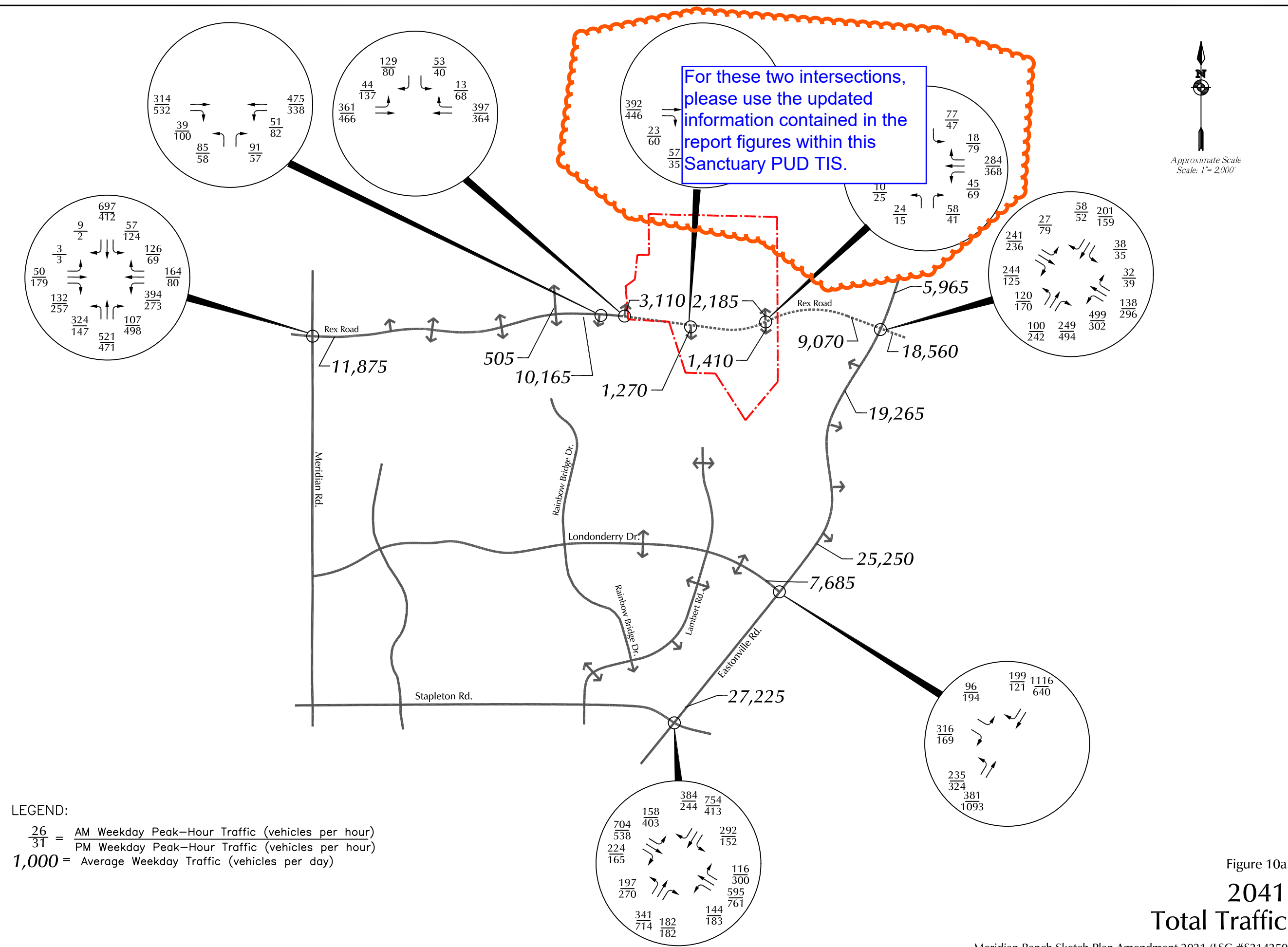





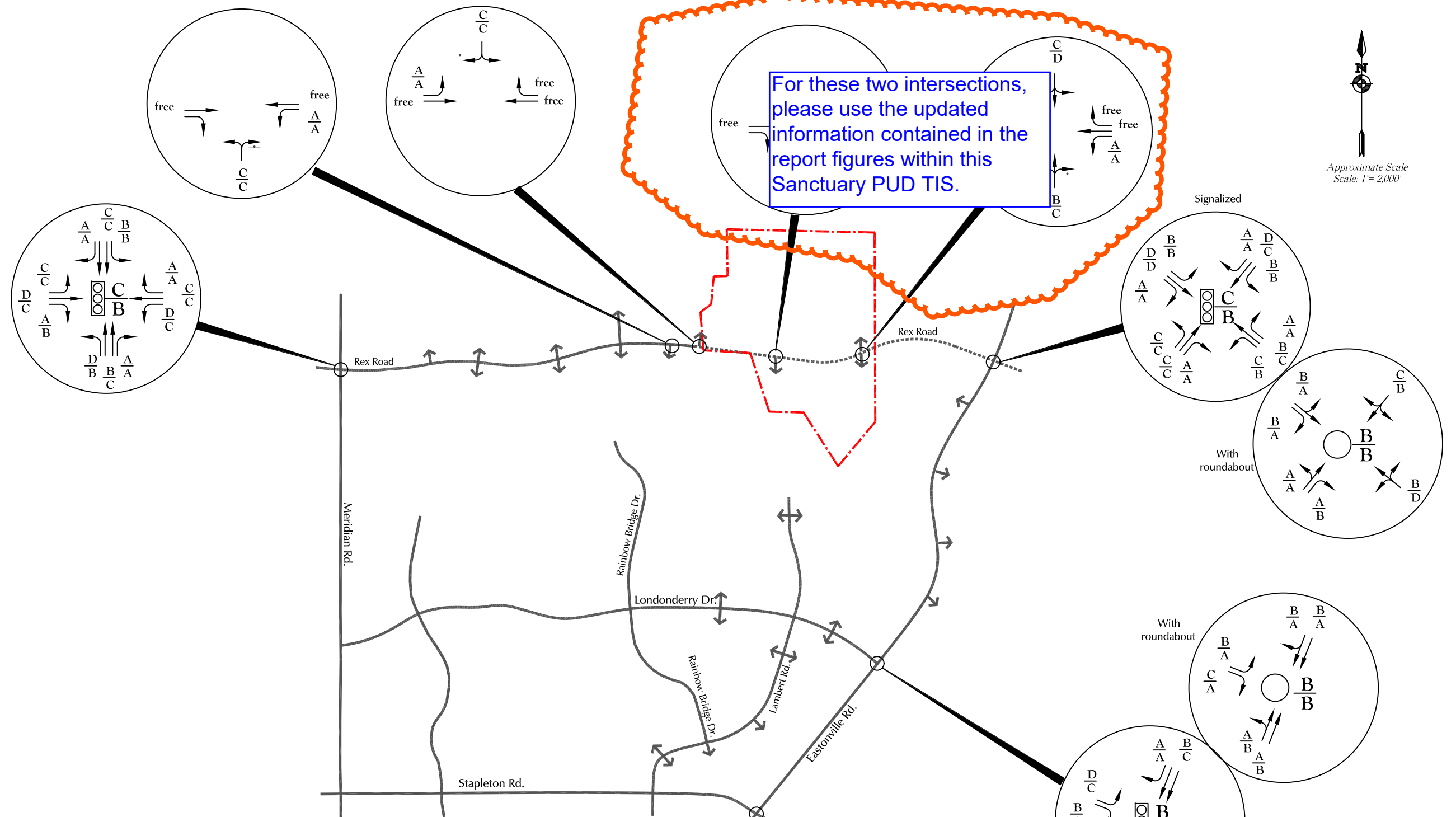
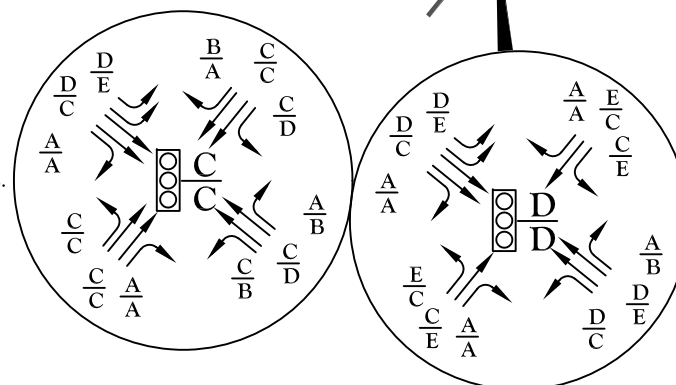
Figure 9b  
**Short-Term Total Lane Geometry and Level-of-Service**  
 Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)



LEGEND:

-  = Stop Sign
-  = Traffic Signal
- $\frac{A}{B}$  = AM Individual Movement Peak-Hour Level of Service
- $\frac{C}{D}$  = PM Individual Movement Peak-Hour Level of Service
- $\frac{C}{D}$  = AM Entire Intersection Peak-Hour Level of Service
- $\frac{D}{D}$  = PM Entire Intersection Peak-Hour Level of Service
-  = Modern Roundabout

With hypothetical capacity improvements.



Approximate Scale  
Scale: 1" = 2,000'

Figure 10c

# 2041 Total Lane Geometry and Traffic Control

Meridian Ranch Sketch Plan Amendment 2021 (LSC #S214250)

## Additional Attachments

---

El Paso County Road Impact Fee Advisory Committee Meeting Minutes

