LSC TRANSPORTATION CONSULTANTS, INC.
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Retreat at Timber Ridge
Traffic Impact Analysis
(LSC #174030)
April 17, 2017

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.

Jeffrey C. Hodsdon, P.E., #31684 — Date 4/17/17

COLORADO LICENSED
JEFFREY C. HODSDON
31684
PROFESSIONAL ENGINEER

Developer's Statement

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

_____ _____
Date

Sign and date

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April 17, 2017

Mr. Peter Martz
Arroyo Investments
P.O. Box 50223
Colorado Springs, CO 80949

RE: Retreat at Timber Ridge
Traffic Impact Analysis
El Paso County, CO
LSC #174030

Dear Peter:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for the proposed Retreat at Timber Ridge residential development to be located generally east of Vollmer Road and south of Arroya Lane in El Paso County, Colorado. Figure 1 shows the site location.

REPORT CONTENTS

The report contains the following:

- The existing roadway and traffic conditions in the site's vicinity including the roadway widths, surface conditions, lane geometries, traffic controls, and posted speed limits, etc.
- The existing traffic volumes on the area roadways.
- The projected average weekday and peak-hour vehicle-trips to be generated by the proposed development.
- The assignment of the projected site-generated traffic volumes to the area roadways.
- The projected total traffic volumes on the area roadways.
- The projected levels of service at the site access points and the key adjacent intersections.
- The resulting traffic impacts.
- Recommendations for roadway improvements.
- Two County deviation forms included with this submittal are attached to this report.

SITE LAND USE

The site is located generally east of Vollmer Road and south of Arroya Lane. There are existing single-family homes west and north of the site. The vacant parcels south and east of the site are part of the planned Sterling Ranch development. These parcels are planned to be developed for single-family homes.

The site is planned to be developed with 482 lots for single-family homes. Two of these lots are located west of Vollmer Road. Access is proposed to Vollmer Road via Arroya Lane and extensions of Poco Road and Wildflower Road. The site plan also shows future connections through the Sterling Ranch development east and south of the site. The site plan is shown in Figure 2

EXISTING ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The roadways in the study area are shown on Figure 1 and are described below.

- **Vollmer Road** is a two-lane, rural, paved roadway north of Cowpoke Road extending to north of Hodgen Road. Vollmer Road has a posted speed limit of 45 miles per hour (mph). It is currently a five-lane urban street within the City of Colorado Springs limits between Black Forest Road and Cowpoke Road The 2040 El Paso County *Major Transportation Corridors Plan (MTCP)* shows Vollmer Road as a two-lane Urban Minor Arterial adjacent to the site.

- **Briargate Parkway** is a six-lane, Principal Arterial that extends east from I-25 to Grand Lawn Circle (about one-half mile east of Powers Boulevard). Briargate Parkway is planned to ultimately extend to Vollmer Road.

- **Stapleton Drive** is shown as a four-lane Principal Arterial on the El Paso County *MTCP*. Stapleton Drive currently extends east from just west of Towner Drive across Eastonville Road to Curtis Road. Stapleton Drive is planned to be extended west to connect to Briargate Parkway in the future.

Existing Traffic Conditions

Figure 3 shows the current morning and afternoon peak-hour traffic volumes at the intersection of Vollmer Road/Poco Road based on counts conducted by LSC in February and March 2017. The traffic count reports are attached.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or 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.

It appears that Vollmer Road north to and including the Burgess Road intersection is required to be included in this study by ECM Section B.2.3.A (>10% short term impact). Provide counts and analysis.

Table 1
Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections		Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	V/C[1]	Average Control Delay (seconds per vehicle)[2]
A	10.0 sec or less	less than 0.60	10.0 sec or less
B	10.1-20.0 sec	0.60-0.69	10.1-15.0 sec
C	20.1-35.0 sec	0.70-0.79	15.1-25.0 sec
D	35.1-55.0 sec	0.80-0.89	25.1-35.0 sec
E	55.1-80.0 sec	0.90-0.99	35.1-50.0 sec
F	80.1 sec or more	1.00 and greater	50.1 sec or more

(1) Source: *Transportation Research Circular 212*
(2) 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 intersection of Volllmer Road/Poco Road was analyzed to determine the existing levels of based on the unsignalized method of analysis procedures found in the *Highway Capacity Manual, 2010 Edition* by the Transportation Research Board. Figure 3 shows the level of service analysis results. As shown on the figure all movements this intersection are currently operating at a level of service A during the peak hours. The level of service (LOS) reports are attached.

SHORT-TERM (2020) BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the adjacent roadways and at adjacent intersections without the proposed development's trip generation and resulting site-generated traffic volumes. Background traffic includes increases in the through traffic and the traffic generated by adjacent and nearby developments, but assumes zero traffic generated by the site. Figure 4 shows the background traffic for the short term (Year 2020). The short-term background traffic volumes are based on some growth in existing through volumes on Vollmer Road shown in Figure 3, plus the addition of traffic generated by Phase 1 of the Sterling Ranch development located just east of Vollmer Road and south of the future Stapleton Drive, and traffic generated by Sterling Ranch North located east of Vollmer Road between the future Stapleton Drive and future extension of Poco Road. The short-term background volumes assume Stapleton Drive and Briargate Parkway will not be constructed in the vicinity of the site in the short term other than the short segment needed for access for Phase 1 of Sterling Ranch.

2040 BACKGROUND TRAFFIC

Figure 5 shows the background traffic volumes for the year 2040. The 2040 background traffic volume estimates were based on 2040 volume projections in the *El Paso County Major Transportation Corridors Plan (MTCP)* and previous work completed in the area by LSC, including the *Sterling Ranch Updated Traffic Impact Analysis* by LSC dated June 5, 2008. The 2040 background traffic includes buildout of the Sterling Ranch development including the future connections to the Sterling

Ranch parcels east of the Retreat at Timber Ridge Site. The 2040 background traffic also assumes a Stapleton Drive extension to the west to Vollmer Road and a Briargate Parkway extension east to Vollmer Road.

TRIP GENERATION

Estimates of the traffic volumes expected to be generated by the existing and proposed land uses within the study area were made using the nationally published trip generation rates found in *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates.

The site is projected to generate about 4,589 new external 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 90 vehicles would enter and 270 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 304 vehicles would enter and 178 vehicles would exit the site.

TRIP DISTRIBUTION AND ASSIGNMENT

The estimated directional distribution of the site-generated traffic volumes on the adjacent roadways is an important factor in determining the site's traffic impacts. Figure 6 shows the short-term and long-term directional distribution estimates for the site-generated traffic. The estimates have been based on the following factors: the site's location with respect to the City of Colorado Springs metropolitan area and other developed areas; the site's proposed land use; the site's proposed access points; the roadway system serving the site; and the existing traffic counts. The short-term directional distribution estimates assume the proposed future extensions of Stapleton Drive and Briargate Parkway will not be constructed in the vicinity of the site in the short term other than the short segments needed for access for Phase 1 of Sterling Ranch. The long-term directional distribution estimate assumes buildout of the future street network including a Stapleton Drive extension to the west to Vollmer Road and a Briargate Parkway extension east to Vollmer Road. The long-term distribution estimate also assumes the future connections on the east side of the site will connect to a new north/south collector street through the Sterling Ranch parcel just east of the site.

When the distribution percentages (from Figure 6) were applied to the trip generation estimates (from Table 2), the site generated traffic volumes on the area roadways were determined. Figures 7 and 8 show the short-term and long-term site-generated traffic volumes, respectively.

SHORT-TERM TOTAL TRAFFIC

Figure 9a shows the short-term total traffic volumes at the access points and key intersections in the vicinity of the site. The volumes are the sum of the short-term background traffic volumes from Figure 4, plus the short-term site-generated traffic volumes from Figure 7.

Figure 9b shows the lane geometry, traffic control, and level of service at the site access points and key intersections based on the short-term total volumes.

2040 TOTAL TRAFFIC

Figure 10a shows the 2040 total traffic volumes at the site access points and key intersections in the vicinity of the site. The volumes are the sum of the 2040 background traffic volumes from Figure 5, plus the long-term site-generated traffic volumes from Figure 8.

Figure 10b shows the lane geometry, traffic control, and level of service at the key intersections based on the 2040 total volumes.

Address sight distance at Vollmer/Wildflower. (Will proposed entry features be affected?)

PROJECTED LEVELS OF SERVICE

Intersection Levels of Service

The site access point intersections and other key area intersections have been analyzed to determine the projected levels of service based on the short-term and 2040 total traffic volumes. The intersections were analyzed based on the unsignalized method of analysis procedures found in the *Highway Capacity Manual, 2010 Edition* by the Transportation Research Board. The intersection of Vollmer/Briargate/Stapleton was analyzed as a signalized intersection for the projected long-term conditions using Synchro. The level of service reports are attached. Figures 4b, 5b, 9b, and 10b show the level of service analysis results.

The intersections of Vollmer/Poco, Vollmer/Wildflower and Vollmer/Arroya and the site access points along Wildflower are projected to operate at a satisfactory level of service (satisfactory according to County standards is LOS D or better) as stop-sign-controlled intersections (except for the third site access from the west, which was analyzed as a one-lane modern roundabout) based on the projected short-term and 2040 total traffic volumes.

The intersection of Vollmer/Stapleton is projected to operate at a satisfactory level of service (LOS D or better) as a stop-sign-controlled intersection based on the short-term total traffic. This analysis assumes Stapleton Road has only been extended east of Vollmer Road to serve the planned Phase 1 development of Sterling Ranch. By 2040, it was assumed that Briargate Road would be extended east to Vollmer Road and Stapleton Drive would be extended east to connect to its current terminus. It was also assumed that the intersection of Vollmer/Briargate/Stapleton would be signal controlled by 2040. This intersection is projected to operate at an overall satisfactory level of service (LOS D or better) as a signalized intersection, however the westbound left-turn movement is projected to operate at LOS E during the afternoon peak hour. This movement has projected delays in the LOS E range simply because of the likelihood of arrival at the traffic signal at the beginning of the red phase at an intersection with many phases and a long cycle length. This movement would not be considered “failing” since the volume-to-capacity ratio is less than one. The justification is that to progress through traffic along an arterial corridor, the traffic signal offsets and left-turn and side street phase times have been adjusted to favor the through traffic band, which can often result in higher delay for the left-turn movements even though there is sufficient capacity for them.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. The site is projected to generate about 4,589 new external 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 about 90 vehicles would enter and 270 vehicles would exit the site. During the afternoon peak hour about 304 vehicles would enter and 178 vehicles would exit the site.

Projected Levels of Service

2. The intersections of Vollmer/Poco, Vollmer/Wildflower, and Vollmer/Arroya and the site access points along Wildflower are projected to operate at a satisfactory level of service (LOS D or better) as stop-sign-controlled intersections (except for the third site access from the west, which was analyzed as a one-lane modern roundabout) based on the projected short-term and 2040 total traffic volumes.

3. The intersection of Vollmer/Stapleton is projected to operate at a satisfactory level of service (LOS D or better) as a stop-sign-controlled intersection based on the short-term total traffic. This intersection is projected to operate at an overall satisfactory level of service (LOS D or better) as a signalized intersection in 2040. Please refer to the level of service section for additional detail regarding the LOS analysis results.

Recommended Auxiliary Turn Lane Improvements

4. Based on the criteria contained in the *El Paso County Engineering Criteria Manual*, the classification of Vollmer Road as a Minor Arterial, and the projected short-term site-generated traffic volumes, northbound right-turn deceleration lanes will be required on Vollmer Road approaching the Poco Road, Wildflower Road, and Arroya Lane intersections. Based on a 45-mph posted speed limit (50-mph design speed), these deceleration lanes should be 235 feet long plus a 200-foot taper.

5. Based on the criteria contained in the *El Paso County Engineering Criteria Manual*, the classification of Vollmer Road as a Minor Arterial, and the projected 2040 total traffic volumes, a southbound left-turn lane will be required on Vollmer Road approaching Wildflower Road. Based on a 45-mph posted speed limit (50-mph design speed), this lane should be 285 feet long plus a 200-foot taper.

6. Actual timing of installation of these turn lanes can be determined with the final plats.

Vollmer Road Improvements

7. Vollmer Road will need to be upgraded due to projected increases in background traffic and the projected site traffic. The County will likely require improvement to an Urban Minor Arterial roadway adjacent to the site. The section between Poco and Wildflower will ultimately

Provide a recommended improvements and responsibilities table including contribution to the widening of Vollmer Road and the traffic signal at Vollmer/Briargate.

need to be an Urban Minor Arterial cross section (five lanes) plus right-turn lanes. The section of Vollmer Road north of Arroya is likely to be ultimately improved to a Rural Minor Arterial cross section. LSC recommends the section of Vollmer between Wildflower and Arroya be treated as a transition section between a five-lane Urban Minor Arterial south of Wildflower and a two-lane Rural Minor Arterial north of Arroya.

8. Requirements for design and potentially construction (or posting of financial assurances) for segments of Vollmer Road should be addressed with final plats.

El Paso County Roadway Improvement Fee Program

9. This project will be required to participate in the El Paso County Roadway Improvement Fee Program.

Street Classification

10. Figure 11 shows the recommended street classifications for Vollmer Road adjacent to the site and the internal streets based on the projected 2040 traffic volumes shown in Figure 10a.

Deviations

11. Two County deviation forms included with this submittal are attached to this report.
    a. The first deviation is for the cross section of the Wildflower east/west collector street.
    b. The second deviation is for proposed intersection spacing along Arroya Lane.

* * * * *

Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH:KDF:bjwb

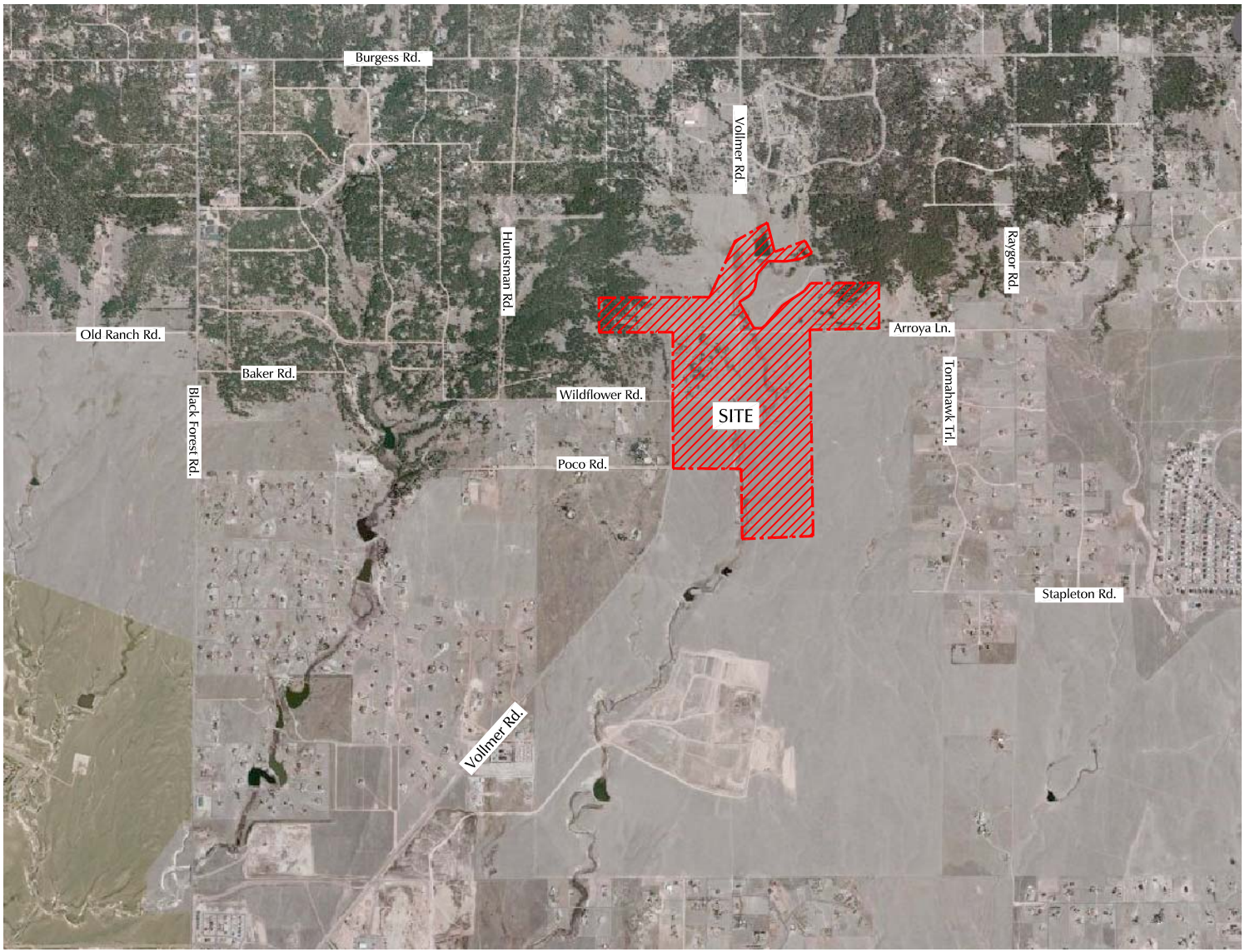
Enclosures: Table 2
Figures 1-11
Traffic Count Reports
Level of Service Reports
Deviation Forms (2)

Table 2
Trip Generation Estimate
Retreat at Timber Ridge

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1]					Total Trips Generated				
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out	In	Out
210	Single-Family Detached Housing	482 DU[2]	9.52	0.19	0.56	0.63	0.37	4,589	90	271	304	178

Notes:
(1) Source: "*Trip Generation, 9th Edition, 2012*" by the Institute of Transportation Engineers (ITE)
(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.



N

Approximate Scale
Scale: 1"= 3,000'

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Figure 1

Vicinity Map

Retreat at Timber Ridge (LSC #174030)

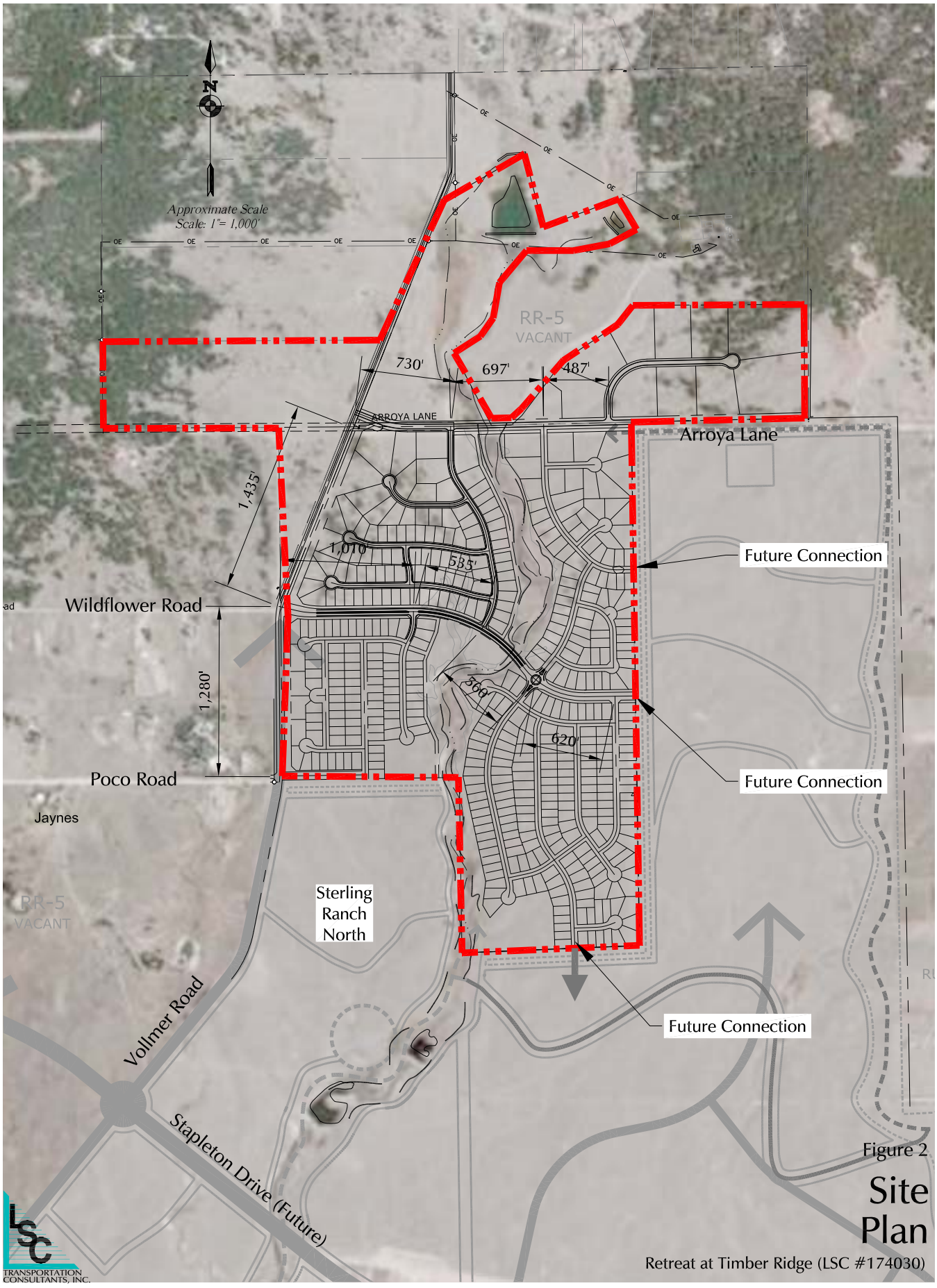
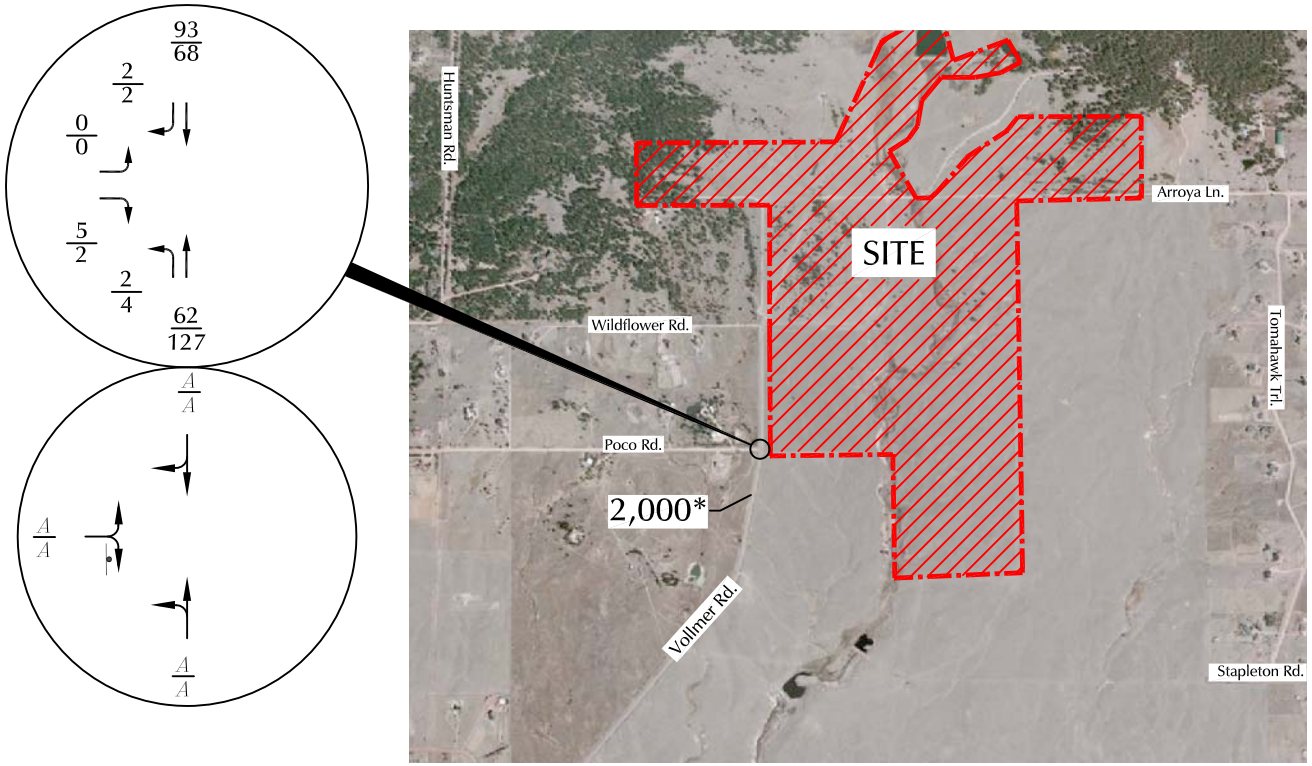


Figure 2

Site Plan

Retreat at Timber Ridge (LSC #174030)



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

⊢ = Stop Sign

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$ Based on counts by LSC Feb 2017

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

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

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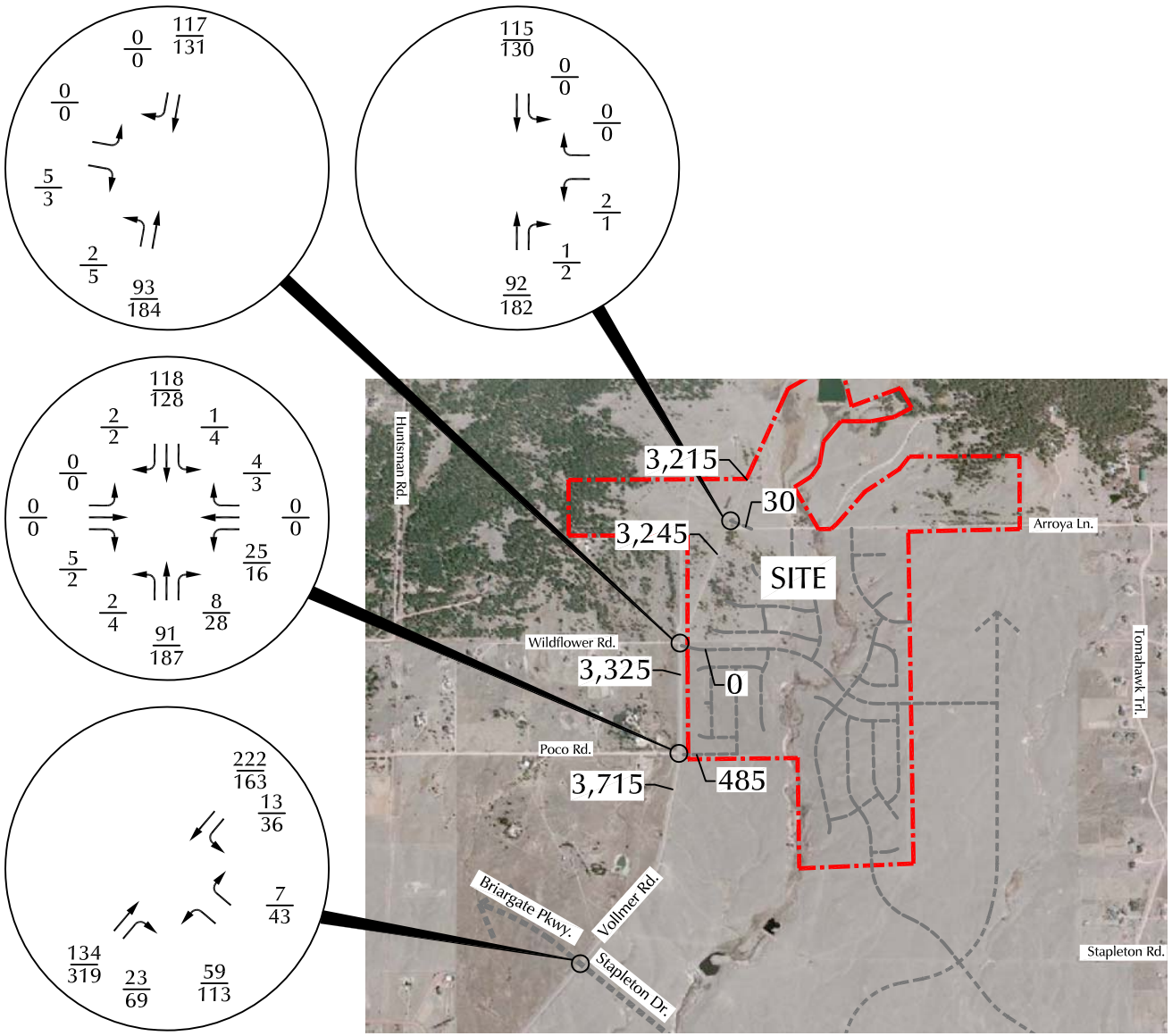
Figure 3

Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Retreat at Timber Ridge (LSC #174030)



Approximate Scale
Scale: 1"= 2,000'

LEGEND:

XX/XX = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day)

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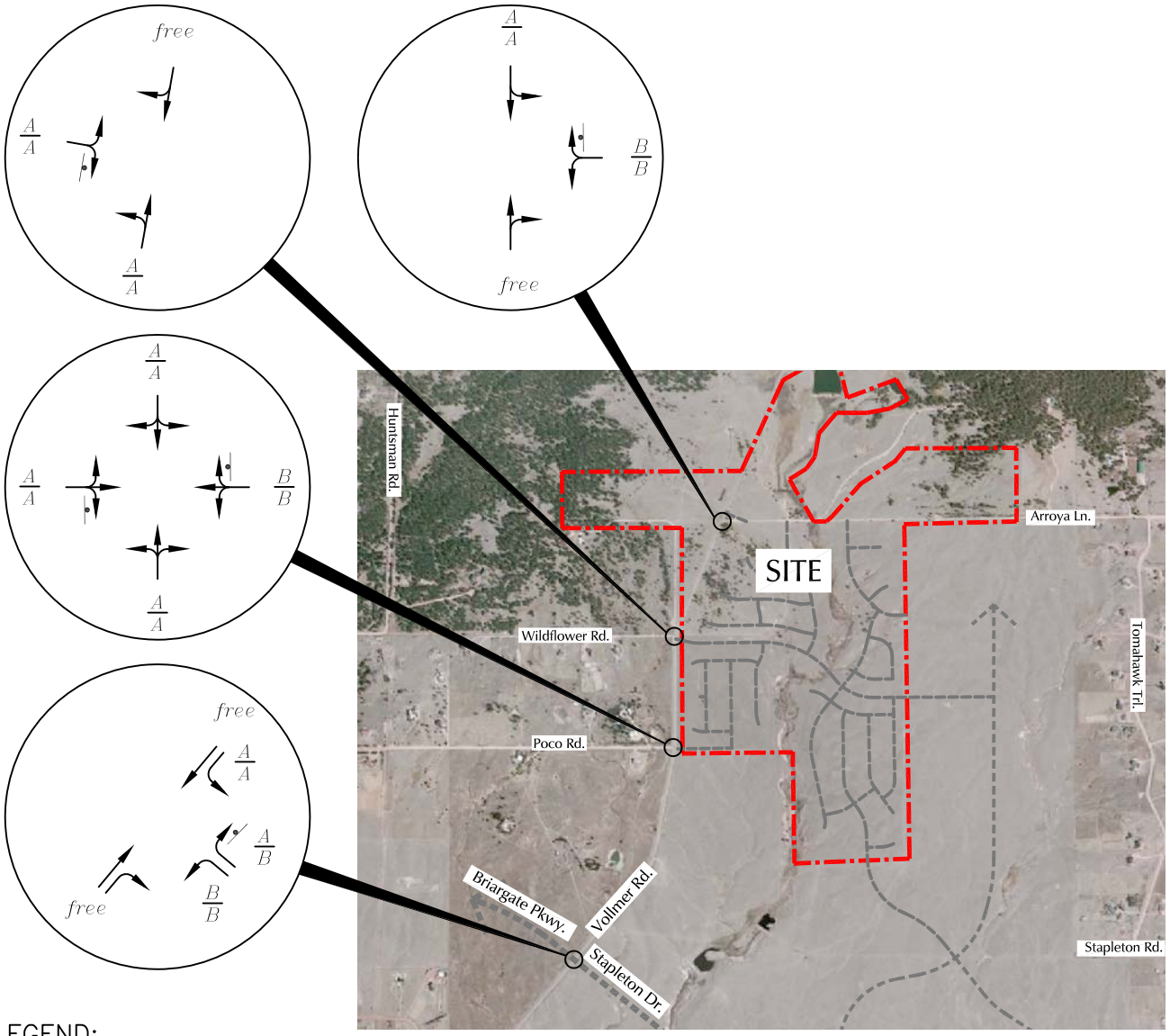
Figure 4a

Year 2020 Background Traffic

Retreat at Timber Ridge (LSC #174030)



N

Approximate Scale
Scale: 1"= 2,000'

LEGEND:

⊢ = Stop Sign

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

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Figure 4b

Year 2020 Background Lane Geometry, Traffic Control and Level of Service

Retreat at Timber Ridge (LSC #174030)

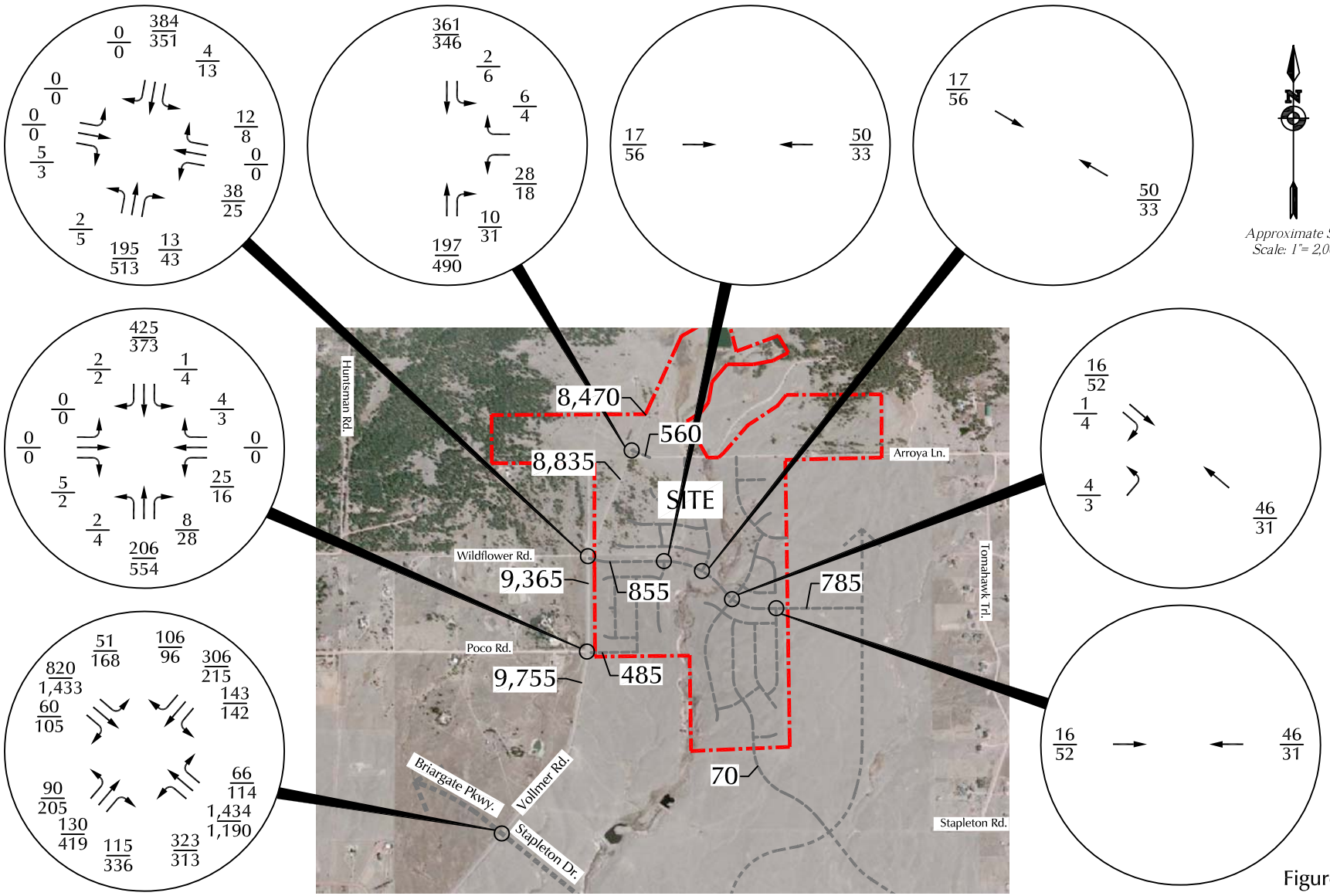

Figure 5a

Year 2040 Background Traffic

Retreat at Timber Ridge (LSC #174030)

LEGEND:

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

XXX = Average Weekday Traffic (vehicles per day)

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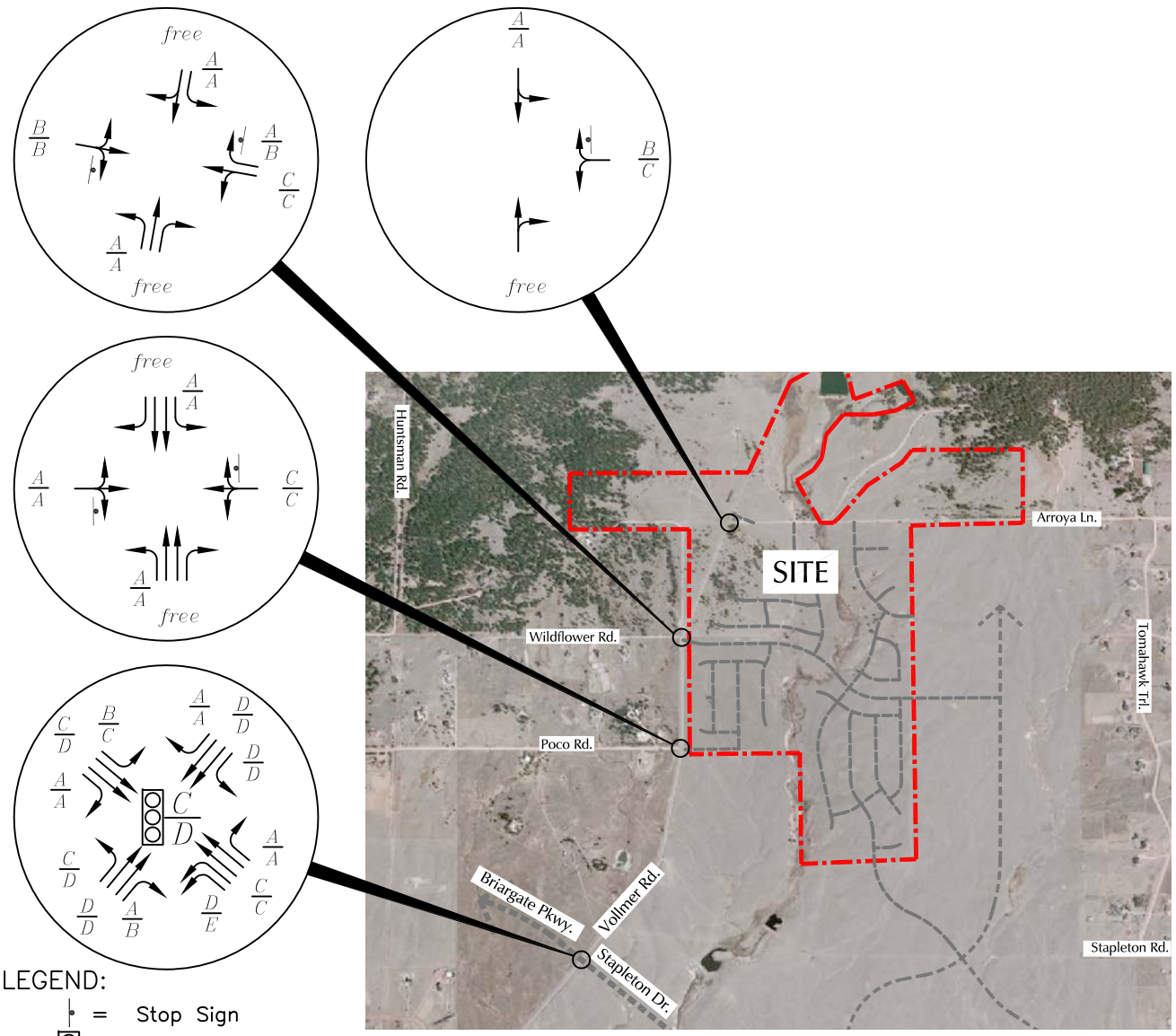

LEGEND:

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

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N

Approximate Scale
Scale: 1"= 2,000'

Figure 5b

Year 2040 Background Lane Geometry, Traffic Control and Level of Service

Retreat at Timber Ridge (LSC #174030)

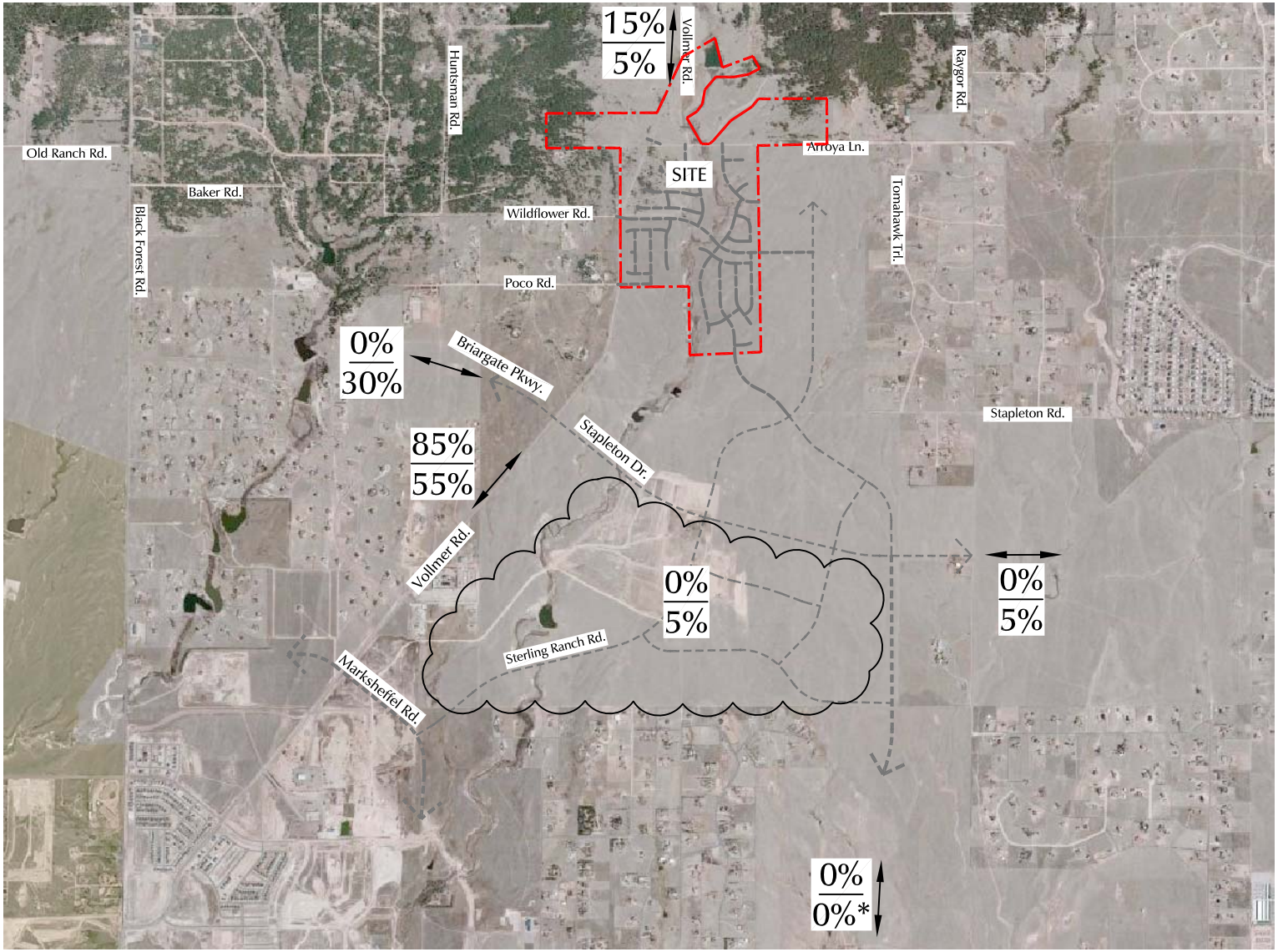

Figure 6

Directional Distribution of Site-Generated Traffic

Retreat at Timber Ridge (LSC #174030)

LEGEND:

XX% / XX% = Short–Term Percent Directional Distribution / Long–Term Percent Directional Distribution

* Assumed not completed for long-term analysis.

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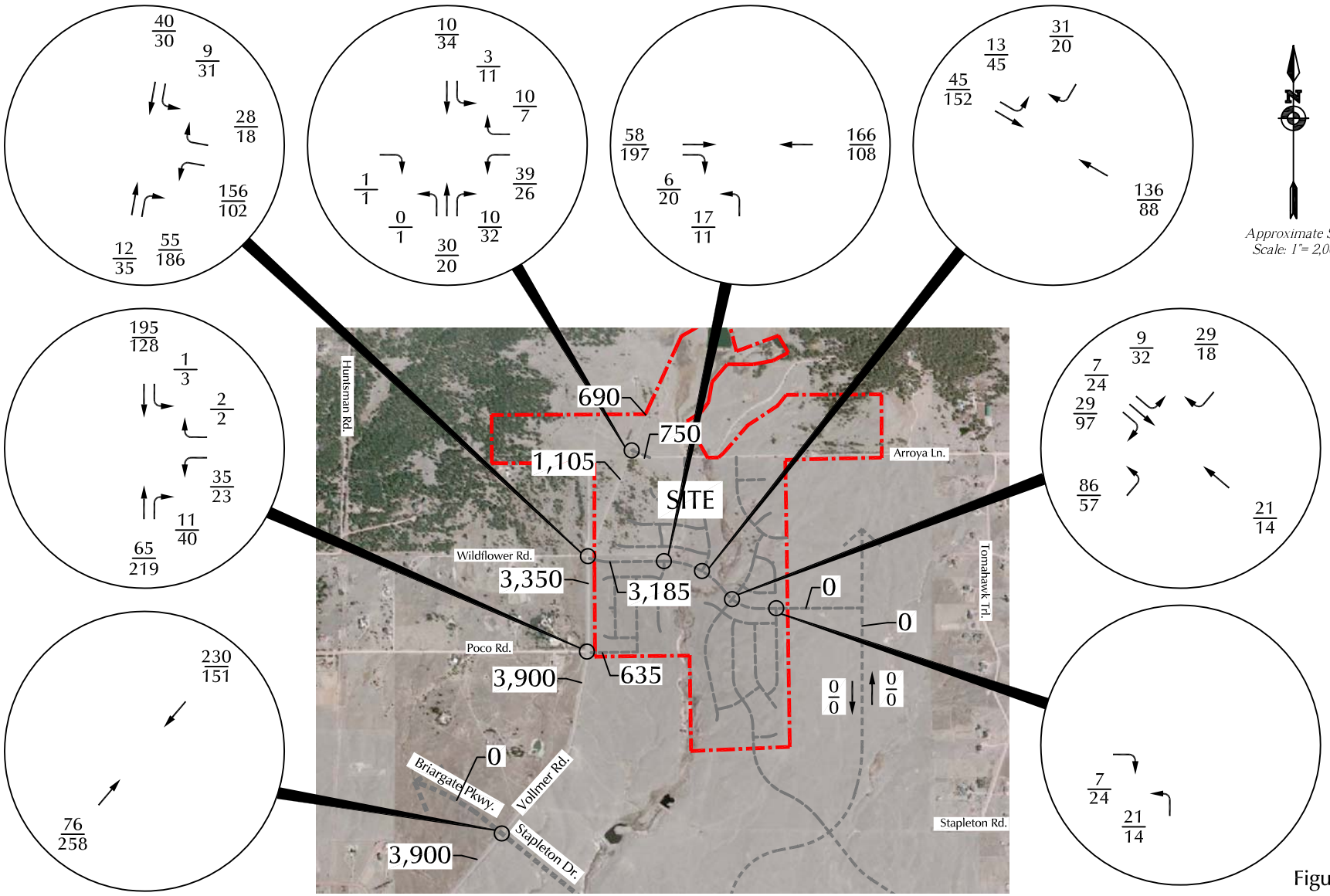


Figure 7

Assignment of Short-Term Site-Generated Traffic

Retreat at Timber Ridge (LSC #174030)

LEGEND:

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

XXX = Average Weekday Traffic (vehicles per day)

LSC TRANSPORTATION CONSULTANTS, INC.

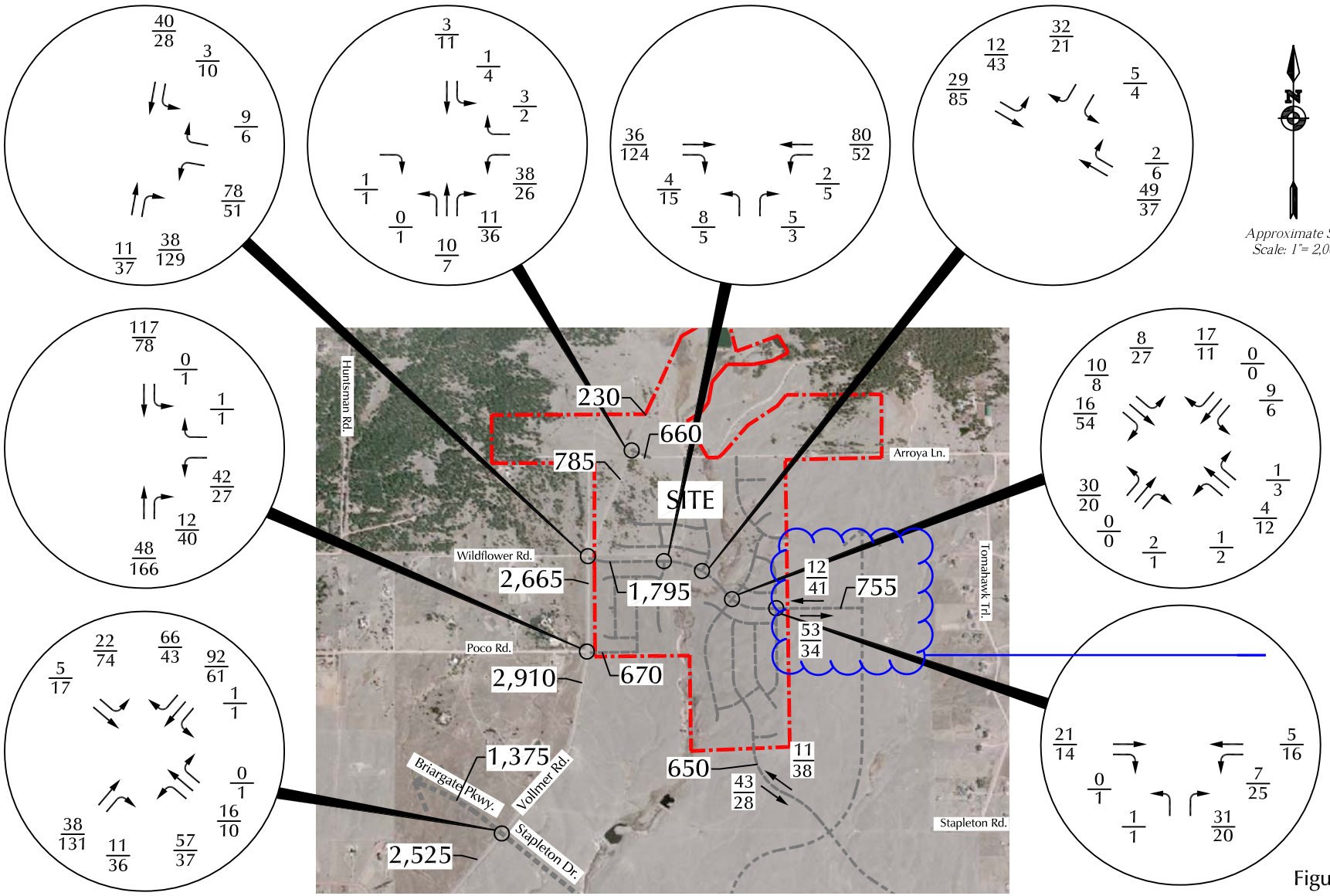


Figure 8

Assignment of Long-Term Site-Generated Traffic

Retreat at Timber Ridge (LSC #174030)

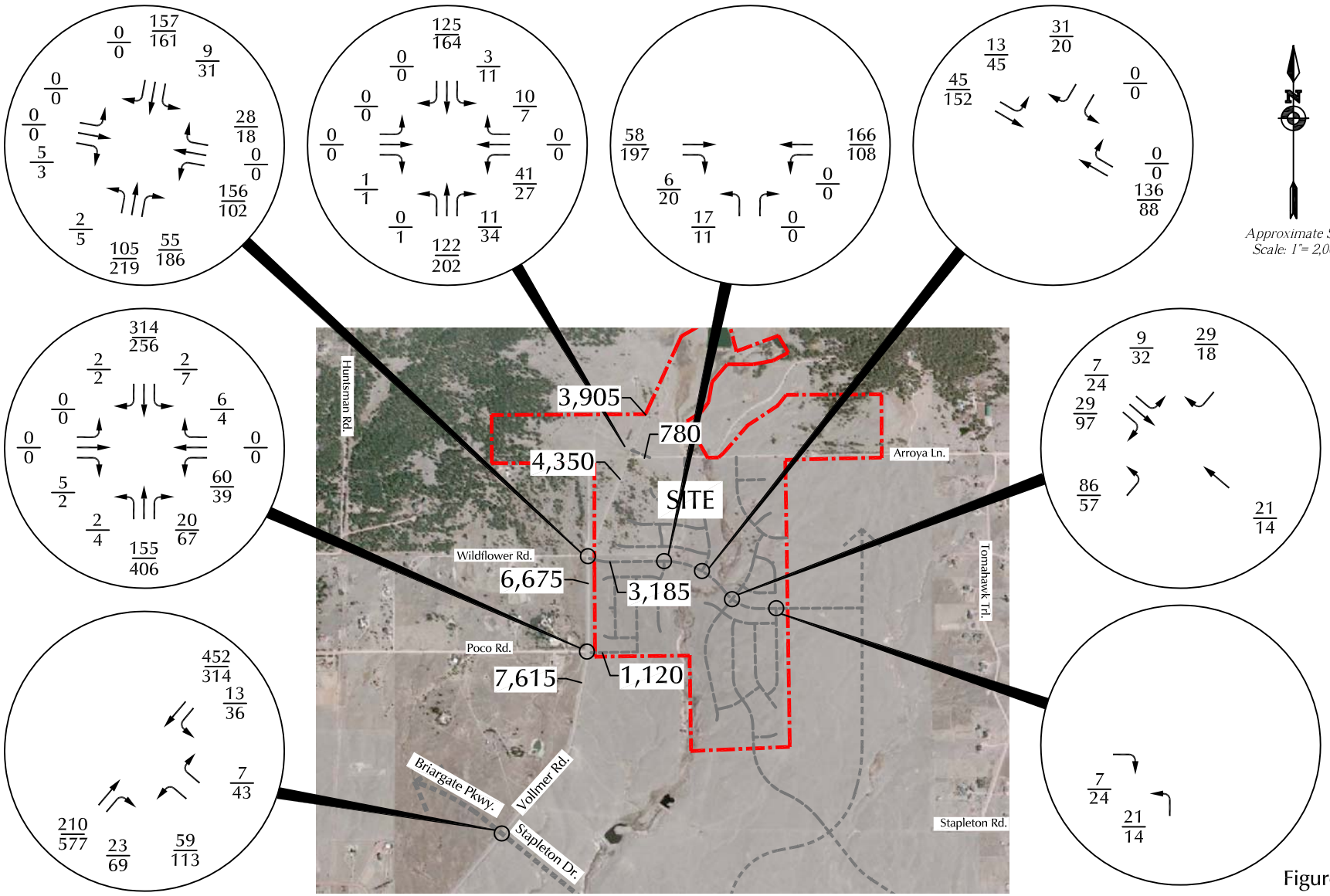
LEGEND:

XX/XX = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

This seems high - verify evaluation



LEGEND:

XX/XX = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day)

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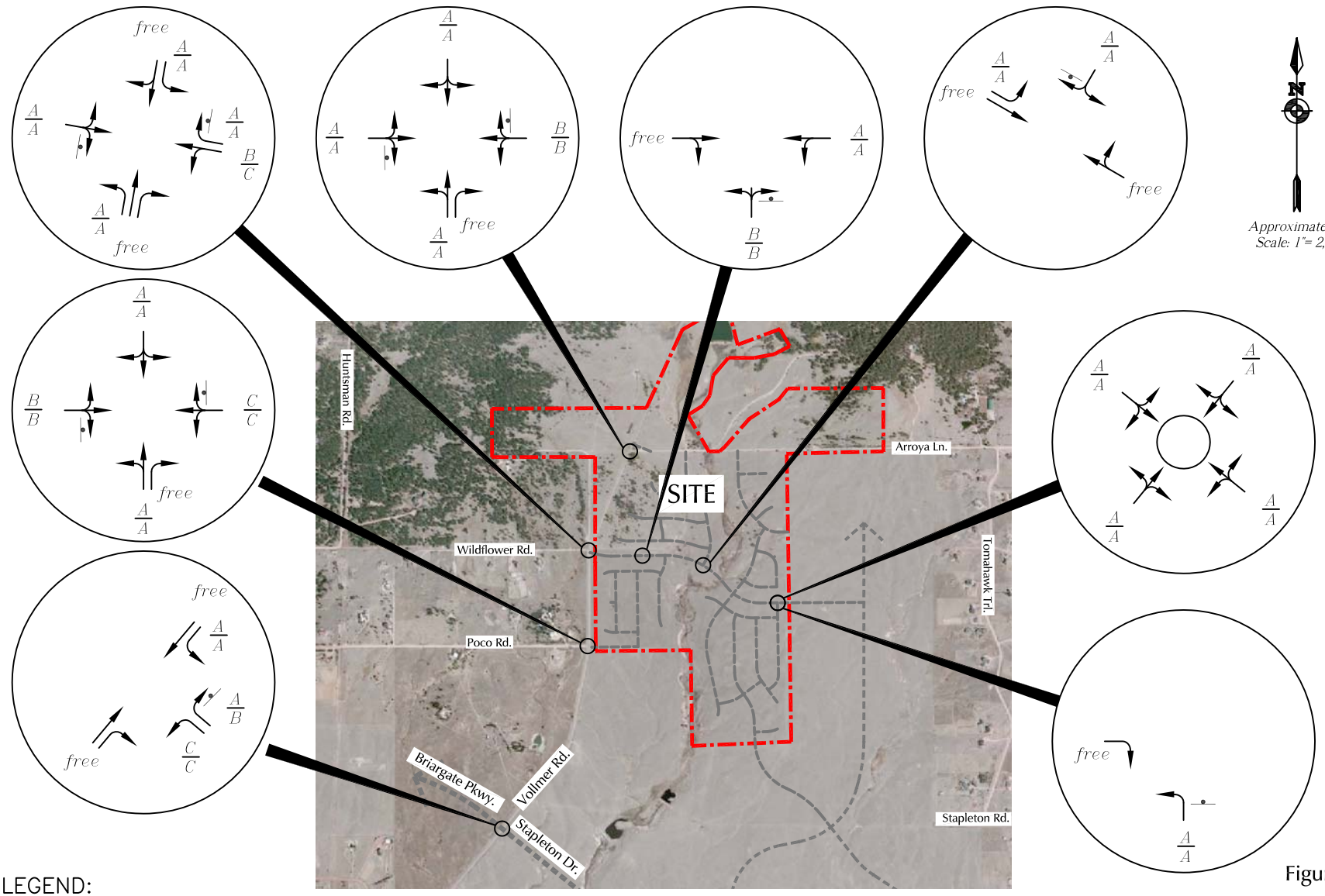
Figure 9a

Year 2020 Total Traffic

Retreat at Timber Ridge (LSC #174030)



LEGEND:

= Stop Sign

= Modern Roundabout

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

TRANSPORTATION CONSULTANTS, INC.

Figure 9b

Year 2020 Total Lane Geometry, Traffic Control and Level of Service

Retreat at Timber Ridge (LSC #174030)

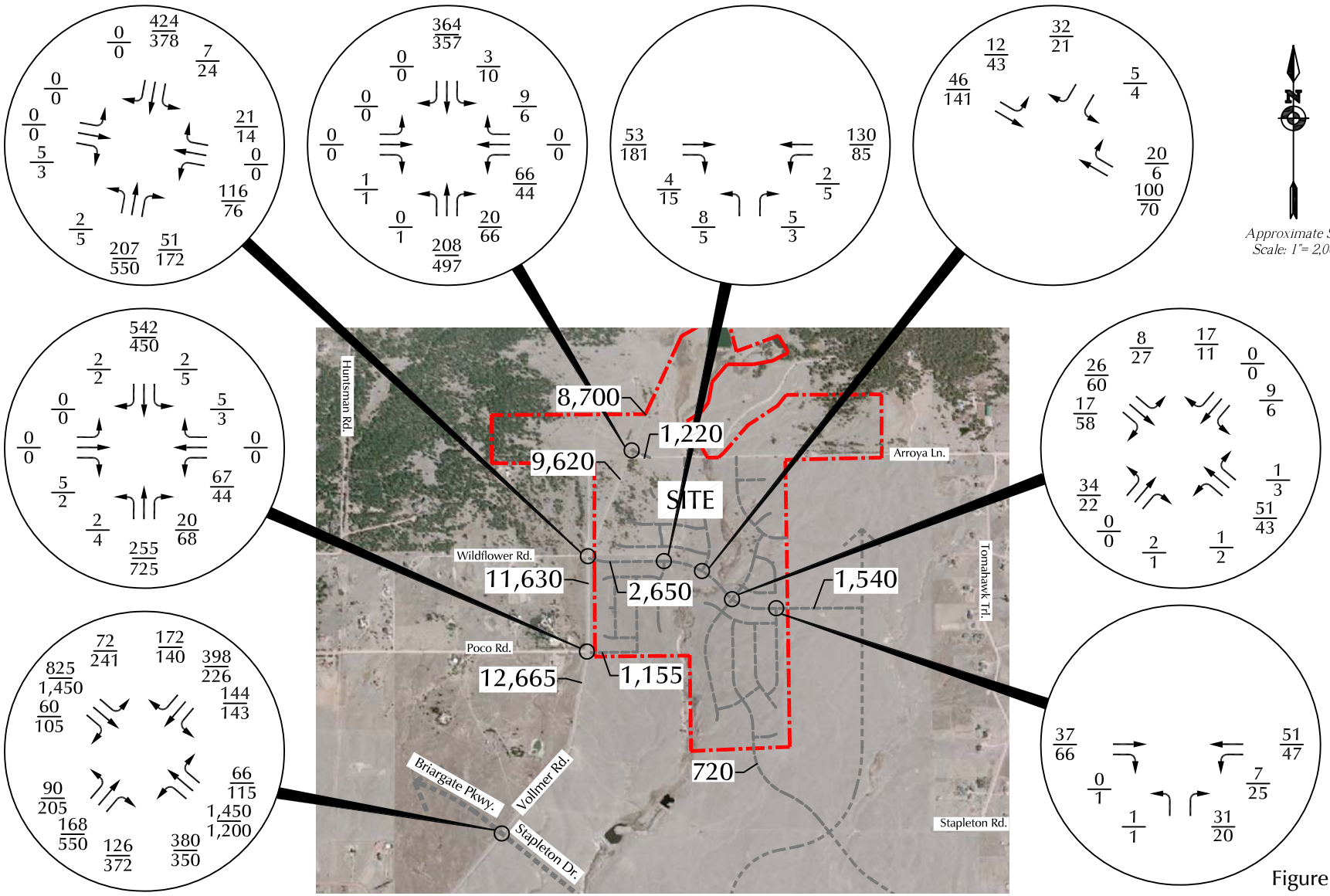


Figure 10a

Year 2040 Total Traffic

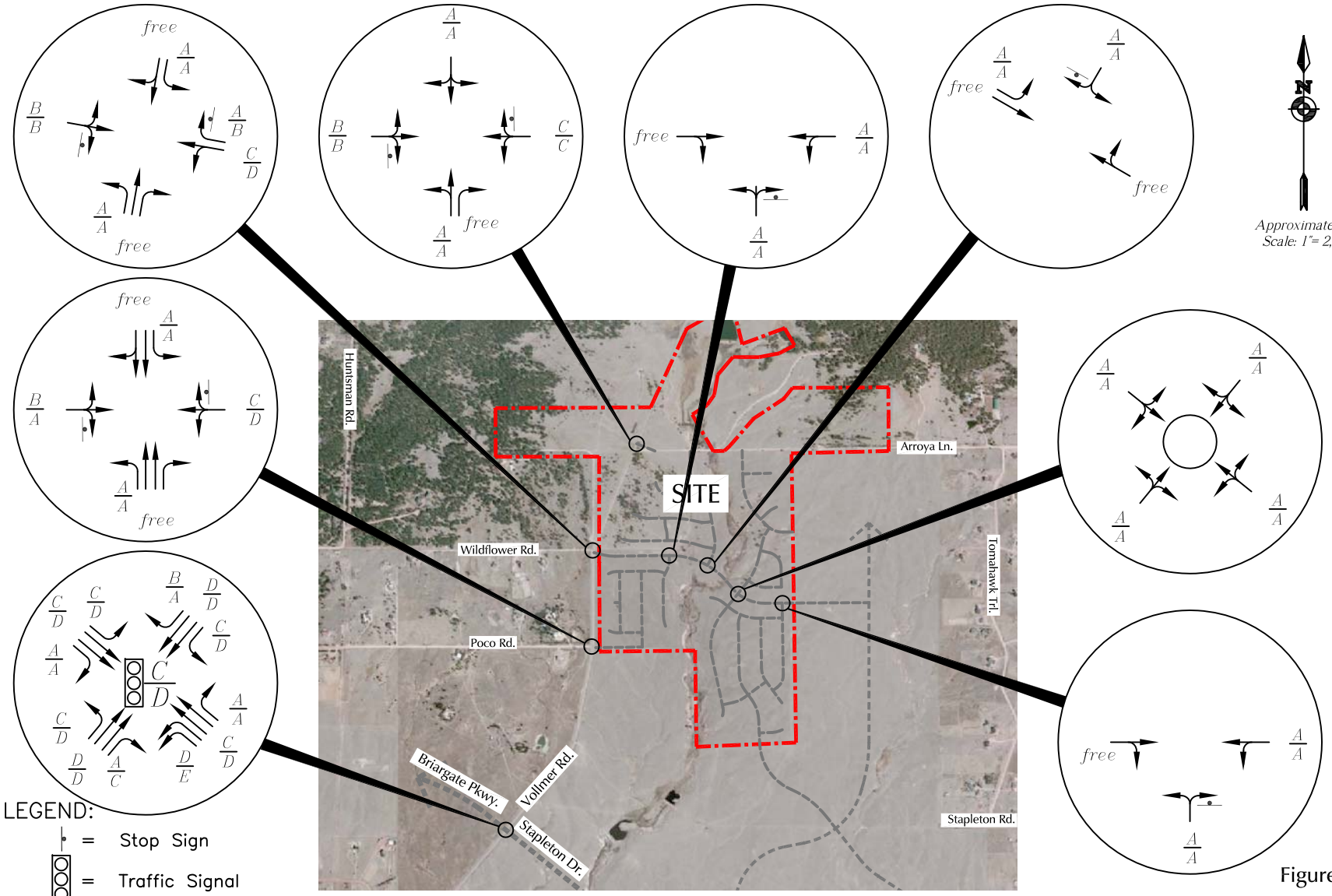
Retreat at Timber Ridge (LSC #174030)

LEGEND:

XX/XX = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

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

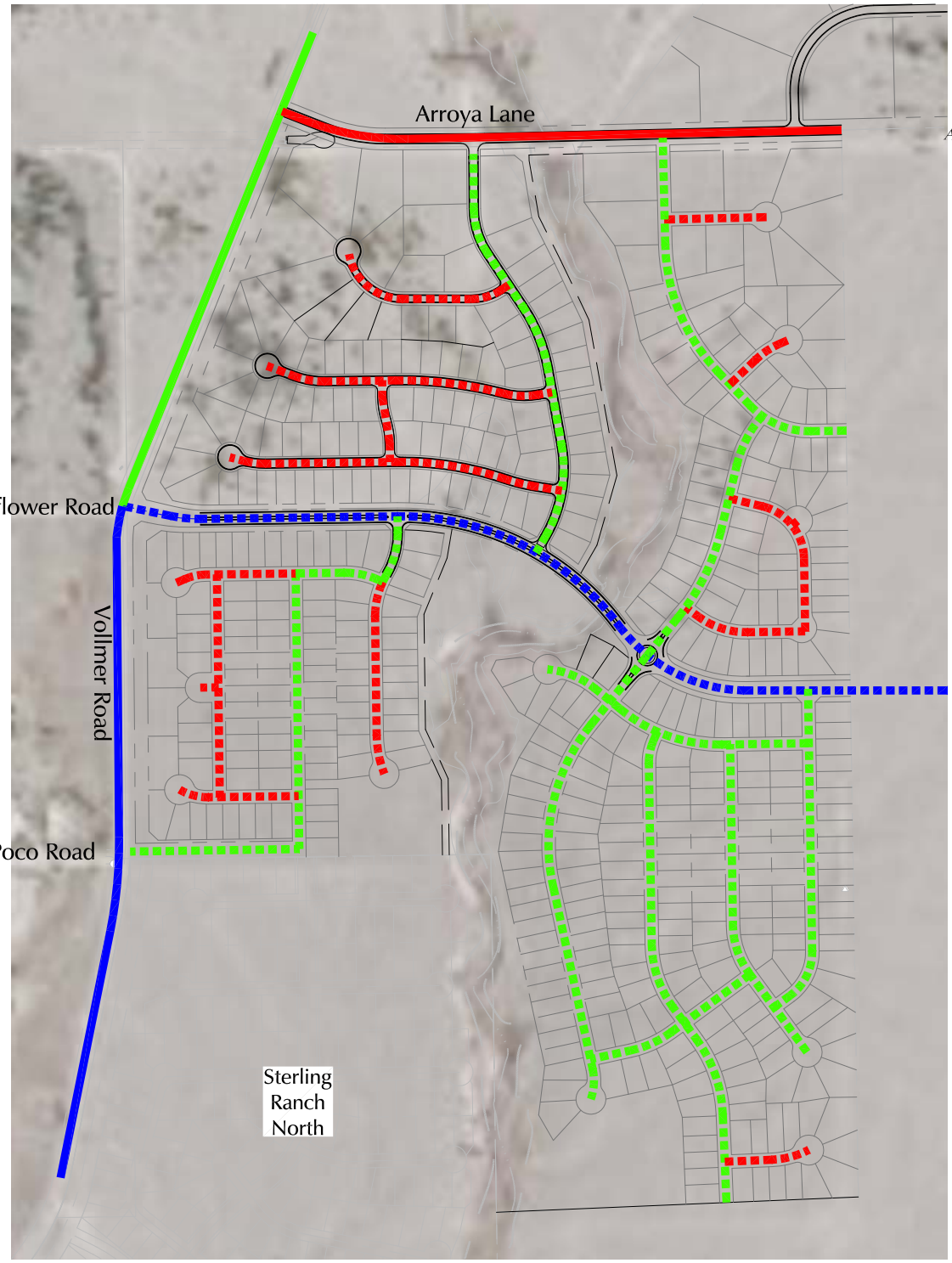
$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

TRANSPORTATION CONSULTANTS, INC.

Figure 10b

Year 2040 Total Lane Geometry, Traffic Control and Level of Service

Retreat at Timber Ridge (LSC #174030)



N

Approximate Scale
Scale: 1"= 600'

LEGEND:

= 4–Lane Urban Minor Arterial
= 2–Lane Urban Minor Arterial*
= Urban Residential Collector
= 2–Lane Minor Collector
= Urban Local
= Urban Local (Low Volume)

* Transition section between Urban Minor Arterial and 2–Lane Rural Minor Arterial

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 11

Recommended Classifications

Trails at Timber Ridge (LSC #174030)

LSC Transportation Consultants, Inc.
545 E. Pikes Peak Ave., #210
Colorado Springs, CO 80903
(719) 633-2868

LSC Transportation Consultants, Inc.

File Name : Vollmer Rd - Poco Rd AM
Site Code : 00174030
Start Date : 02/09/2017
Page No : 1

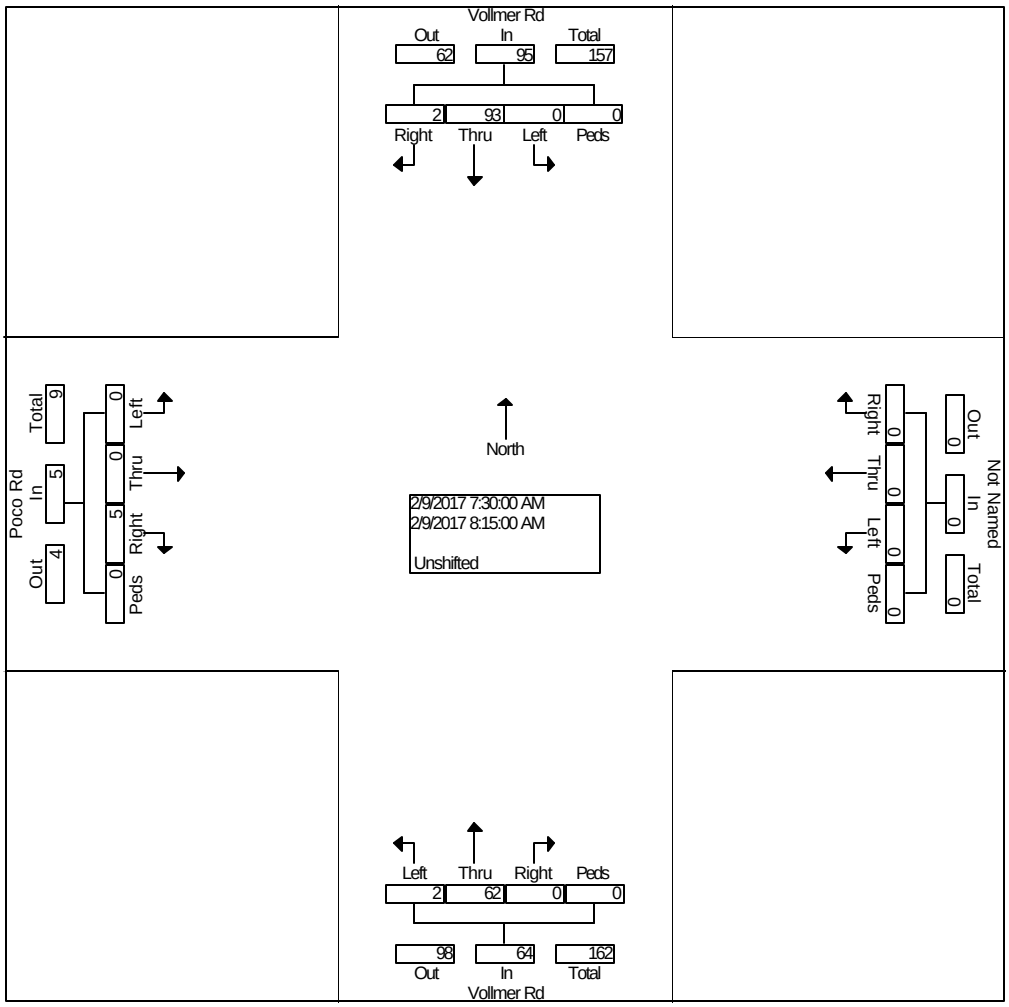
Groups Printed- Unshifted

	Vollmer Rd From North				From East				Vollmer Rd From South				Poco Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	26	0	0	0	0	0	0	0	9	1	0	1	0	1	0	38
06:45 AM	0	23	0	0	0	0	0	0	0	3	4	0	0	0	0	0	30
Total	0	49	0	0	0	0	0	0	0	12	5	0	1	0	1	0	68
07:00 AM	0	21	0	0	0	0	0	0	0	11	3	0	1	0	0	0	36
07:15 AM	1	25	0	0	0	0	0	0	0	12	0	0	3	0	0	0	41
07:30 AM	0	22	0	0	0	0	0	0	0	20	0	0	1	0	0	0	43
07:45 AM	1	22	0	0	0	0	0	0	0	15	0	0	2	0	0	0	40
Total	2	90	0	0	0	0	0	0	0	58	3	0	7	0	0	0	160
08:00 AM	0	20	0	0	0	0	0	0	0	8	0	0	2	0	0	0	30
08:15 AM	1	29	0	0	0	0	0	0	0	19	2	0	0	0	0	0	51
Grand Total	3	188	0	0	0	0	0	0	0	97	10	0	10	0	1	0	309
Apprch %	1.6	98.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.7	9.3	0.0	90.9	0.0	9.1	0.0	
Total %	1.0	60.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	3.2	0.0	3.2	0.0	0.3	0.0	

LSC Transportation Consultants, Inc.
545 E. Pikes Peak Ave., #210
Colorado Springs, CO 80903
(719) 633-2868

File Name : Vollmer Rd - Poco Rd AM
Site Code : 00174030
Start Date : 02/09/2017

	Vollmer Rd From North					From East					Vollmer Rd From South					Poco Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	2	93	0	0	95	0	0	0	0	0	0	62	2	0	64	5	0	0	0	5	164
Percent	2.1	97.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	96.9	3.1	0.0		100.0	0.0	0.0	0.0		
08:15 Volume	1	29	0	0	30	0	0	0	0	0	0	19	2	0	21	0	0	0	0	0	51
Peak Factor																					0.804
High Int.	08:15 AM					6:15:00 AM					08:15 AM					07:45 AM					
Volume	1	29	0	0	30	0	0	0	0	0	0	19	2	0	21	2	0	0	0	2	
Peak Factor					0.792										0.762					0.625	



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LSC Transportation Consultants, Inc.

File Name : Vollmer Rd - Poco Rd PM
Site Code : 00174030
Start Date : 02/08/2017
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Groups Printed- Unshifted

	Vollmer Rd From North				From East				Vollmer Rd From South				Poco Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	20	0	0	0	0	0	0	0	28	1	0	0	0	1	0	50
04:15 PM	1	14	0	0	0	0	0	0	0	20	0	0	0	0	0	0	35
04:30 PM	0	19	0	0	0	0	0	0	0	36	1	0	0	0	0	0	56
04:45 PM	0	13	0	0	0	0	0	0	0	36	1	0	2	0	0	0	52
Total	1	66	0	0	0	0	0	0	0	120	3	0	2	0	1	0	193
05:00 PM	1	22	0	0	0	0	0	0	0	35	2	0	0	0	0	0	60
05:15 PM	0	10	0	0	0	0	0	0	0	22	1	0	0	0	0	0	33
05:30 PM	0	15	0	0	0	0	0	0	0	38	1	0	1	0	0	0	55
05:45 PM	0	12	0	0	0	0	0	0	0	26	2	0	1	0	0	0	41
Total	1	59	0	0	0	0	0	0	0	121	6	0	2	0	0	0	189
Grand Total	2	125	0	0	0	0	0	0	0	241	9	0	4	0	1	0	382
Apprch %	1.6	98.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.4	3.6	0.0	80.0	0.0	20.0	0.0	
Total %	0.5	32.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.1	2.4	0.0	1.0	0.0	0.3	0.0	

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File Name : Vollmer Rd - Poco Rd PM
Site Code : 00174030
Start Date : 02/08/2017
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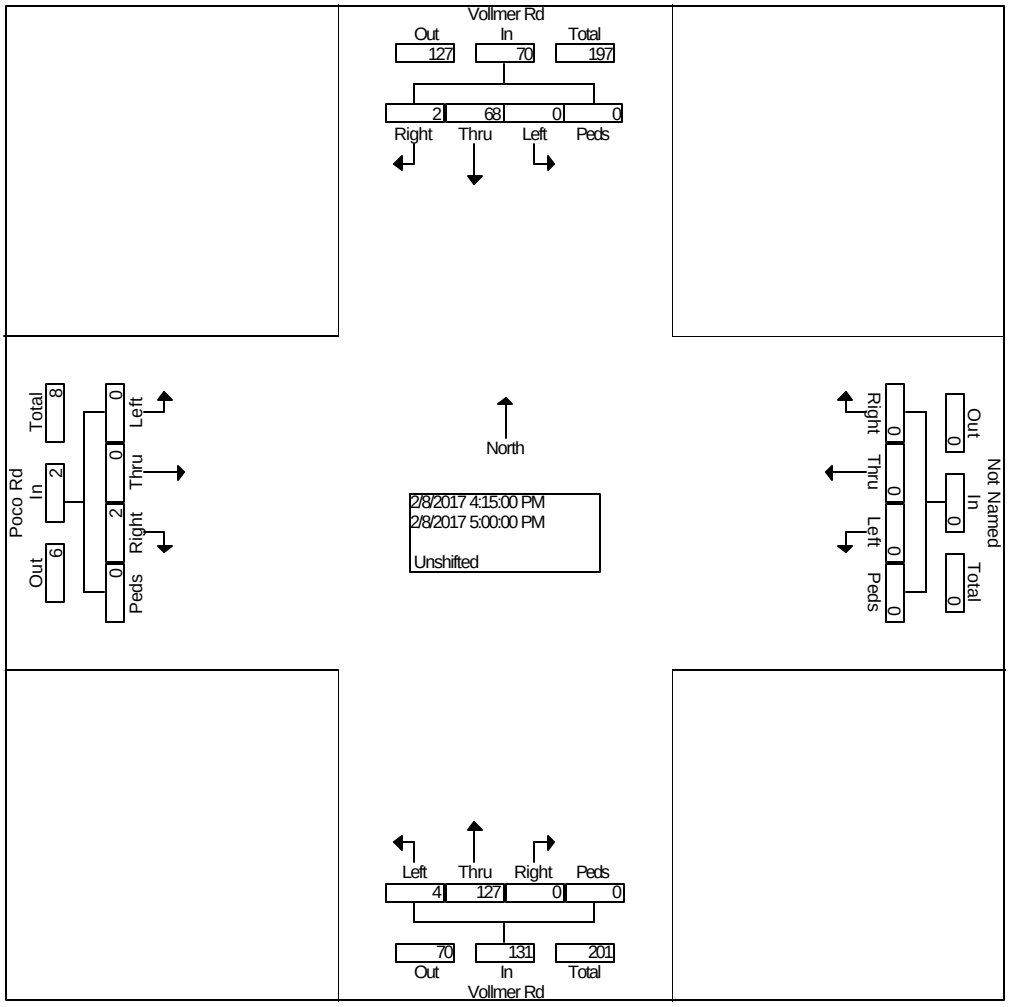
	Vollmer Rd From North					From East					Vollmer Rd From South					Poco Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	2	68	0	0	70	0	0	0	0	0	0	127	4	0	131	2	0	0	0	2	203
Percent	2.9	97.1	0.0	0.0		0.0	0.0	0.0	0.0		0.0	96.9	3.1	0.0		100.0	0.0	0.0	0.0		
05:00 Volume	1	22	0	0	23	0	0	0	0	0	0	35	2	0	37	0	0	0	0	0	60
Peak Factor																					0.846
High Int.	05:00 PM					3:45:00 PM					04:30 PM					04:45 PM					
Volume	1	22	0	0	23	0	0	0	0	0	0	36	1	0	37	2	0	0	0	2	
Peak Factor					0.761										0.885					0.250	



Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	5	2	62	93	2
Future Vol, veh/h	1	5	2	62	93	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	76	76	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	5	3	82	118	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	206	119	120	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	782	933	1468	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	780	933	1468	-	-	-
Mov Cap-2 Maneuver	780	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1468	-	903	-	-
HCM Lane V/C Ratio	0.002	-	0.007	-	-
HCM Control Delay (s)	7.5	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	4	127	68	2
Future Vol, veh/h	0	2	4	127	68	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	89	89	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	4	143	89	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	243	91	92	0	-	0
Stage 1	91	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	745	967	1503	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	743	967	1503	-	-	-
Mov Cap-2 Maneuver	743	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	967	-	-
HCM Lane V/C Ratio	0.003	-	0.002	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	7	134	23	13	222
Future Vol, veh/h	59	7	134	23	13	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	235	260	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	76	92	92	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	8	176	25	14	281

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	485	176	0	0	176	0
Stage 1	176	-	-	-	-	-
Stage 2	309	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	541	867	-	-	1400	-
Stage 1	855	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	536	867	-	-	1400	-
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	855	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	536	867	1400	-
HCM Lane V/C Ratio	-	-	0.12	0.009	0.01	-
HCM Control Delay (s)	-	-	12.6	9.2	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	5	25	0	4	2	91	8	1	118	2
Future Vol, veh/h	0	0	5	25	0	4	2	91	8	1	118	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	92	92	92	76	76	92	92	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	27	0	4	3	120	9	1	149	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	285	287	151	284	283	124	152	0	0	128	0	0
Stage 1	153	153	-	129	129	-	-	-	-	-	-	-
Stage 2	132	134	-	155	154	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	667	623	895	668	626	927	1429	-	-	1458	-	-
Stage 1	849	771	-	875	789	-	-	-	-	-	-	-
Stage 2	871	785	-	847	770	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	662	621	895	663	624	927	1429	-	-	1458	-	-
Mov Cap-2 Maneuver	662	621	-	663	624	-	-	-	-	-	-	-
Stage 1	847	770	-	873	787	-	-	-	-	-	-	-
Stage 2	865	783	-	841	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	10.5	0.2	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	895	690	1458	-	-
HCM Lane V/C Ratio	0.002	-	-	0.006	0.046	0.001	-	-
HCM Control Delay (s)	7.5	0	-	9	10.5	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	2	93	117	0
Future Vol, veh/h	0	5	2	93	117	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	76	79	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	2	122	148	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	275	148	148	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	127	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	715	899	1434	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	714	899	1434	-	-	-
Mov Cap-2 Maneuver	714	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	899	-	-
HCM Lane V/C Ratio	0.002	-	0.006	-	-
HCM Control Delay (s)	7.5	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	92	1	0	115
Future Vol, veh/h	2	0	92	1	0	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	76	92	92	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	121	1	0	146

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	268	122	0	0	122	0
Stage 1	122	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	721	929	-	-	1465	-
Stage 1	903	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	721	929	-	-	1465	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	881	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	721	1465	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	-	-	10	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	113	43	319	69	36	163
Future Vol, veh/h	113	43	319	69	36	163
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	235	260	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	47	347	75	39	177

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	602	347	0	0	347	0
Stage 1	347	-	-	-	-	-
Stage 2	255	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	463	696	-	-	1212	-
Stage 1	716	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	448	696	-	-	1212	-
Mov Cap-2 Maneuver	541	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	541	696	1212	-
HCM Lane V/C Ratio	-	-	0.227	0.067	0.032	-
HCM Control Delay (s)	-	-	13.6	10.5	8.1	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	16	0	3	4	187	28	4	128	2
Future Vol, veh/h	0	0	2	16	0	3	4	187	28	4	128	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	92	92	92	89	89	92	92	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	17	0	3	4	210	30	4	168	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	414	428	170	413	414	225	171	0	0	241	0	0
Stage 1	178	178	-	234	234	-	-	-	-	-	-	-
Stage 2	236	250	-	179	180	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	549	519	874	549	529	814	1406	-	-	1326	-	-
Stage 1	824	752	-	769	711	-	-	-	-	-	-	-
Stage 2	767	700	-	823	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	544	516	874	545	526	814	1406	-	-	1326	-	-
Mov Cap-2 Maneuver	544	516	-	545	526	-	-	-	-	-	-	-
Stage 1	822	750	-	767	709	-	-	-	-	-	-	-
Stage 2	762	698	-	819	748	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	11.5	0.1	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1406	-	-	874	575	1326	-	-
HCM Lane V/C Ratio	0.003	-	-	0.002	0.036	0.003	-	-
HCM Control Delay (s)	7.6	0	-	9.1	11.5	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	5	184	131	0
Future Vol, veh/h	0	3	5	184	131	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	89	76	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	5	207	172	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	390	172	172	0	-	0
Stage 1	172	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	614	872	1405	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	818	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	612	872	1405	-	-	-
Mov Cap-2 Maneuver	612	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1405	-	872	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.6	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	182	2	0	130
Future Vol, veh/h	1	0	182	2	0	130
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	89	92	92	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	204	2	0	171

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	377	206	0	0	207	0
Stage 1	206	-	-	-	-	-
Stage 2	171	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	625	835	-	-	1364	-
Stage 1	829	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	625	835	-	-	1364	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	625	1364	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	-	-	10.8	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	820	60	323	1434	66	90	130	115	143	306	106
Future Volume (vph)	51	820	60	323	1434	66	90	130	115	143	306	106
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	53.0	53.0	22.0	65.0	65.0	15.0	32.0	32.0	13.0	30.0	30.0
Total Split (%)	8.3%	44.2%	44.2%	18.3%	54.2%	54.2%	12.5%	26.7%	26.7%	10.8%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	43.1	37.8	37.8	14.7	50.3	50.3	23.8	15.0	15.0	23.9	18.0	18.0
Actuated g/C Ratio	0.44	0.39	0.39	0.15	0.52	0.52	0.25	0.15	0.15	0.25	0.19	0.19
v/c Ratio	0.32	0.62	0.09	0.65	0.82	0.08	0.31	0.25	0.32	0.45	0.49	0.27
Control Delay	15.7	26.1	0.2	48.0	24.9	1.0	31.8	39.4	5.3	35.1	42.5	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	26.1	0.2	48.0	24.9	1.0	31.8	39.4	5.3	35.1	42.5	4.0
LOS	B	C	A	D	C	A	C	D	A	D	D	A
Approach Delay		23.8			28.2			25.7			33.2	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.9	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 73.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Vollmer Rd & Stapleton Dr

Are these (2-lane) necessary?

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	25	0	4	2	206	8	1	425	2
Future Vol, veh/h	0	0	5	25	0	4	2	206	8	1	425	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	260	-	235	260	-	-
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	0	0	5	26	0	4	2	217	8	1	447	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	564	672	225	447	673	108	449	0	0	217	0	0
Stage 1	451	451	-	221	221	-	-	-	-	-	-	-
Stage 2	113	221	-	226	452	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	408	376	778	495	375	925	1108	-	-	1350	-	-
Stage 1	557	569	-	761	719	-	-	-	-	-	-	-
Stage 2	880	719	-	756	569	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	405	375	778	491	374	925	1108	-	-	1350	-	-
Mov Cap-2 Maneuver	405	375	-	491	374	-	-	-	-	-	-	-
Stage 1	556	569	-	760	718	-	-	-	-	-	-	-
Stage 2	874	718	-	750	569	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	12.3	0.1	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1108	-	-	778	525	1350	-	-
HCM Lane V/C Ratio	0.002	-	-	0.007	0.058	0.001	-	-
HCM Control Delay (s)	8.3	-	-	9.7	12.3	7.7	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	38	0	12	2	195	13	4	384	0
Future Vol, veh/h	0	0	5	38	0	12	2	195	13	4	384	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	260	-	0	260	-	-
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	0	0	5	40	0	13	2	205	14	4	404	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	622	622	404	624	622	205	404	0	0	205	0	0
Stage 1	413	413	-	209	209	-	-	-	-	-	-	-
Stage 2	209	209	-	415	413	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	399	403	647	398	403	836	1155	-	-	1366	-	-
Stage 1	616	594	-	793	729	-	-	-	-	-	-	-
Stage 2	793	729	-	615	594	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	392	401	647	393	401	836	1155	-	-	1366	-	-
Mov Cap-2 Maneuver	392	401	-	393	401	-	-	-	-	-	-	-
Stage 1	615	592	-	792	728	-	-	-	-	-	-	-
Stage 2	780	728	-	608	592	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	13.8	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1155	-	-	647	393	836	1366	-	-
HCM Lane V/C Ratio	0.002	-	-	0.008	0.102	0.015	0.003	-	-
HCM Control Delay (s)	8.1	-	-	10.6	15.2	9.4	7.6	-	-
HCM Lane LOS	A	-	-	B	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	6	197	10	2	361
Future Vol, veh/h	28	6	197	10	2	361
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	6	207	11	2	380

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	597	213	0	0	218	0
Stage 1	213	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	466	827	-	-	1352	-
Stage 1	823	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	465	827	-	-	1352	-
Mov Cap-2 Maneuver	465	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	504	1352	-
HCM Lane V/C Ratio	-	-	0.071	0.002	-
HCM Control Delay (s)	-	-	12.7	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	1433	105	313	1190	114	205	419	336	142	215	96
Future Volume (vph)	168	1433	105	313	1190	114	205	419	336	142	215	96
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	24.0	55.0	55.0	20.0	51.0	51.0	23.0	31.0	31.0	14.0	22.0	22.0
Total Split (%)	20.0%	45.8%	45.8%	16.7%	42.5%	42.5%	19.2%	25.8%	25.8%	11.7%	18.3%	18.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	62.8	50.1	50.1	14.2	51.7	51.7	33.9	20.5	20.5	23.0	14.1	14.1
Actuated g/C Ratio	0.55	0.44	0.44	0.12	0.45	0.45	0.30	0.18	0.18	0.20	0.12	0.12
v/c Ratio	0.65	0.94	0.14	0.77	0.78	0.15	0.61	0.69	0.70	0.64	0.52	0.31
Control Delay	31.2	43.7	1.5	61.8	32.1	2.1	39.2	49.6	18.6	45.3	51.7	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	43.7	1.5	61.8	32.1	2.1	39.2	49.6	18.6	45.3	51.7	3.9
LOS	C	D	A	E	C	A	D	D	B	D	D	A
Approach Delay		39.8			35.7			36.6			39.5	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 37.7	Intersection LOS: D
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Vollmer Rd & Stapleton Dr

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	2	16	0	3	4	559	28	4	373	2
Future Vol, veh/h	0	0	2	16	0	3	4	559	28	4	373	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	260	-	235	260	-	-
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	0	0	2	17	0	3	4	588	29	4	393	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	705	999	197	802	1000	294	395	0	0	588	0	0
Stage 1	402	402	-	597	597	-	-	-	-	-	-	-
Stage 2	303	597	-	205	403	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	323	242	811	275	242	702	1160	-	-	983	-	-
Stage 1	596	599	-	456	490	-	-	-	-	-	-	-
Stage 2	681	490	-	778	598	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	320	240	811	273	240	702	1160	-	-	983	-	-
Mov Cap-2 Maneuver	320	240	-	273	240	-	-	-	-	-	-	-
Stage 1	594	597	-	454	488	-	-	-	-	-	-	-
Stage 2	676	488	-	773	596	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	17.8	0.1	0.1
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1160	-	-	811	302	983	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.066	0.004	-	-
HCM Control Delay (s)	8.1	-	-	9.5	17.8	8.7	-	-
HCM Lane LOS	A	-	-	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	25	0	8	5	513	43	13	351	0
Future Vol, veh/h	0	0	3	25	0	8	5	513	43	13	351	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	260	-	0	260	-	-
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	0	0	3	26	0	8	5	540	45	14	369	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	948	948	369	949	948	540	369	0	0	540	0	0
Stage 1	397	397	-	551	551	-	-	-	-	-	-	-
Stage 2	551	551	-	398	397	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	241	261	677	240	261	542	1190	-	-	1028	-	-
Stage 1	629	603	-	519	515	-	-	-	-	-	-	-
Stage 2	519	515	-	628	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	234	256	677	236	256	542	1190	-	-	1028	-	-
Mov Cap-2 Maneuver	234	256	-	236	256	-	-	-	-	-	-	-
Stage 1	626	595	-	517	513	-	-	-	-	-	-	-
Stage 2	509	513	-	617	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	19.7	0.1	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1190	-	-	677	236	542	1028	-	-
HCM Lane V/C Ratio	0.004	-	-	0.005	0.112	0.016	0.013	-	-
HCM Control Delay (s)	8	-	-	10.3	22.2	11.7	8.5	-	-
HCM Lane LOS	A	-	-	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	18	0	4	0	490	31	6	346	0
Future Vol, veh/h	0	0	0	18	0	4	0	490	31	6	346	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	235	-	-	-
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	0	0	0	19	0	4	0	516	33	6	364	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	895	893	364	893	893	516	364	0	0	516	0	0
Stage 1	377	377	-	516	516	-	-	-	-	-	-	-
Stage 2	518	516	-	377	377	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	261	281	681	262	281	559	1195	-	-	1050	-	-
Stage 1	644	616	-	542	534	-	-	-	-	-	-	-
Stage 2	541	534	-	644	616	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	258	279	681	261	279	559	1195	-	-	1050	-	-
Mov Cap-2 Maneuver	258	279	-	261	279	-	-	-	-	-	-	-
Stage 1	644	612	-	542	534	-	-	-	-	-	-	-
Stage 2	537	534	-	639	612	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	18.5	0	0.1
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1195	-	-	-	289	1050	-	-
HCM Lane V/C Ratio	-	-	-	-	0.08	0.006	-	-
HCM Control Delay (s)	0	-	-	0	18.5	8.4	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	7	210	23	13	452
Future Vol, veh/h	59	7	210	23	13	452
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	235	260	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	76	92	92	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	8	276	25	14	572

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	876	276	0	0	276	0
Stage 1	276	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	319	763	-	-	1287	-
Stage 1	771	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	316	763	-	-	1287	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	542	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	316	763	1287	-
HCM Lane V/C Ratio	-	-	0.203	0.01	0.011	-
HCM Control Delay (s)	-	-	19.3	9.8	7.8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	7	0	0	21	0
Future Vol, veh/h	0	7	0	0	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	0	0	23	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	5	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	1	-
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	-	-	1612	-	1017	1080
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1612	-	1017	1080
Mov Cap-2 Maneuver	-	-	-	-	1017	-
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1017	-	-	1612	-
HCM Lane V/C Ratio	0.022	-	-	-	-
HCM Control Delay (s)	8.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	60	0	6	2	155	20	2	314	2
Future Vol, veh/h	0	0	5	60	0	6	2	155	20	2	314	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	235	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	92	92	92	76	76	92	92	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	65	0	7	3	204	22	2	397	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	615	612	399	615	613	204	400	0	0	204	0	0
Stage 1	403	403	-	209	209	-	-	-	-	-	-	-
Stage 2	212	209	-	406	404	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	403	408	651	403	408	837	1159	-	-	1368	-	-
Stage 1	624	600	-	793	729	-	-	-	-	-	-	-
Stage 2	790	729	-	622	599	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	398	406	651	398	406	837	1159	-	-	1368	-	-
Mov Cap-2 Maneuver	398	406	-	398	406	-	-	-	-	-	-	-
Stage 1	622	599	-	791	727	-	-	-	-	-	-	-
Stage 2	781	727	-	616	598	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	15.4	0.1	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1159	-	-	651	418	1368	-	-
HCM Lane V/C Ratio	0.002	-	-	0.008	0.172	0.002	-	-
HCM Control Delay (s)	8.1	0	-	10.6	15.4	7.6	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

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	0	0	5	156	0	28	2	105	55	9	157	0
Future Vol, veh/h	0	0	5	156	0	28	2	105	55	9	157	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	260	-	235	260	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	76	92	92	79	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	170	0	30	2	138	60	10	199	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	361	361	199	364	361	138	199	0	0	138	0	0
Stage 1	218	218	-	143	143	-	-	-	-	-	-	-
Stage 2	143	143	-	221	218	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	595	566	842	592	566	910	1373	-	-	1446	-	-
Stage 1	784	723	-	860	779	-	-	-	-	-	-	-
Stage 2	860	779	-	781	723	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	571	561	842	584	561	910	1373	-	-	1446	-	-
Mov Cap-2 Maneuver	571	561	-	584	561	-	-	-	-	-	-	-
Stage 1	783	718	-	859	778	-	-	-	-	-	-	-
Stage 2	830	778	-	771	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	13	0.1	0.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1373	-	-	842	584	910	1446	-	-
HCM Lane V/C Ratio	0.002	-	-	0.006	0.29	0.033	0.007	-	-
HCM Control Delay (s)	7.6	-	-	9.3	13.7	9.1	7.5	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	41	0	10	0	122	11	3	125	0
Future Vol, veh/h	0	0	0	41	0	10	0	122	11	3	125	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	235	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	76	92	92	79	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	45	0	11	0	161	12	3	158	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	331	326	158	326	326	161	158	0	0	161	0	0
Stage 1	165	165	-	161	161	-	-	-	-	-	-	-
Stage 2	166	161	-	165	165	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	622	592	887	627	592	884	1422	-	-	1418	-	-
Stage 1	837	762	-	841	765	-	-	-	-	-	-	-
Stage 2	836	765	-	837	762	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	613	591	887	626	591	884	1422	-	-	1418	-	-
Mov Cap-2 Maneuver	613	591	-	626	591	-	-	-	-	-	-	-
Stage 1	837	760	-	841	765	-	-	-	-	-	-	-
Stage 2	826	765	-	835	760	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.9	0	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1422	-	-	-	664	1418	-	-
HCM Lane V/C Ratio	-	-	-	-	0.083	0.002	-	-
HCM Control Delay (s)	0	-	-	0	10.9	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	3.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	50	23	93	32
Demand Flow Rate, veh/h	51	23	95	33
Vehicles Circulating, veh/h	0	105	18	118
Vehicles Exiting, veh/h	151	8	33	10
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.6	3.8	4.1	4.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	51	23	95	33
Cap Entry Lane, veh/h	1130	1017	1110	1004
Entry HV Adj Factor	0.977	0.980	0.979	0.970
Flow Entry, veh/h	50	23	93	32
Cap Entry, veh/h	1104	997	1086	974
V/C Ratio	0.045	0.023	0.086	0.033
Control Delay, s/veh	3.6	3.8	4.1	4.0
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	58	6	0	166	17	0
Future Vol, veh/h	58	6	0	166	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	7	0	180	18	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	70	0	246	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	-	-	4.12	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1531	-	708	998
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1531	-	708	998
Mov Cap-2 Maneuver	-	-	-	-	708	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	822	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	708	-	-	1531	-
HCM Lane V/C Ratio	0.026	-	-	-	-
HCM Control Delay (s)	10.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	45	136	0	0	31
Future Vol, veh/h	13	45	136	0	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	49	148	0	0	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	148	0	-	0	225	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	77	-
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	1434	-	-	-	763	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1434	-	-	-	756	899
Mov Cap-2 Maneuver	-	-	-	-	756	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	899
HCM Lane V/C Ratio	0.01	-	-	-	0.037
HCM Control Delay (s)	7.5	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	113	43	577	69	36	314
Future Vol, veh/h	113	43	577	69	36	314
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	235	260	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	47	627	75	39	341

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1047	627	0	0	627	0
Stage 1	627	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	253	484	-	-	955	-
Stage 1	532	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	243	484	-	-	955	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	374	484	955	-
HCM Lane V/C Ratio	-	-	0.328	0.097	0.041	-
HCM Control Delay (s)	-	-	19.3	13.2	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.4	0.3	0.1	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	24	0	0	14	0
Future Vol, veh/h	0	24	0	0	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	25	0	0	15	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	25	0	14	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	1	-
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	-	-	1589	-	1005	1067
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1589	-	1005	1067
Mov Cap-2 Maneuver	-	-	-	-	1005	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1005	-	-	1589	-
HCM Lane V/C Ratio	0.015	-	-	-	-
HCM Control Delay (s)	8.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	2	39	0	4	4	406	67	7	256	2
Future Vol, veh/h	0	0	2	39	0	4	4	406	67	7	256	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	235	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	92	92	92	89	89	92	92	76	76
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	42	0	4	4	456	73	8	337	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	820	818	338	819	820	456	339	0	0	456	0	0
Stage 1	353	353	-	465	465	-	-	-	-	-	-	-
Stage 2	467	465	-	354	355	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	294	311	704	294	310	604	1220	-	-	1105	-	-
Stage 1	664	631	-	578	563	-	-	-	-	-	-	-
Stage 2	576	563	-	663	630	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	289	307	704	290	306	604	1220	-	-	1105	-	-
Mov Cap-2 Maneuver	289	307	-	290	306	-	-	-	-	-	-	-
Stage 1	661	625	-	575	560	-	-	-	-	-	-	-
Stage 2	569	560	-	655	624	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	18.9	0.1	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1220	-	-	704	305	1105	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.153	0.007	-	-
HCM Control Delay (s)	8	0	-	10.1	18.9	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	102	0	18	5	219	186	31	161	0
Future Vol, veh/h	0	0	3	102	0	18	5	219	186	31	161	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	260	-	235	260	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	89	92	92	76	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	111	0	20	5	246	202	34	212	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	536	536	212	538	536	246	212	0	0	246	0	0
Stage 1	279	279	-	257	257	-	-	-	-	-	-	-
Stage 2	257	257	-	281	279	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	455	451	828	454	451	793	1358	-	-	1320	-	-
Stage 1	728	680	-	748	695	-	-	-	-	-	-	-
Stage 2	748	695	-	726	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	434	438	828	442	438	793	1358	-	-	1320	-	-
Mov Cap-2 Maneuver	434	438	-	442	438	-	-	-	-	-	-	-
Stage 1	725	662	-	745	692	-	-	-	-	-	-	-
Stage 2	727	692	-	705	662	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	15	0.1	1.1
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1358	-	-	828	442	793	1320	-	-
HCM Lane V/C Ratio	0.004	-	-	0.004	0.251	0.025	0.026	-	-
HCM Control Delay (s)	7.7	-	-	9.4	15.9	9.7	7.8	-	-
HCM Lane LOS	A	-	-	A	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	0	0	1	27	0	7	1	202	34	11	164	0
Future Vol, veh/h	0	0	1	27	0	7	1	202	34	11	164	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	235	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	89	92	92	76	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	29	0	8	1	227	37	12	216	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	473	469	216	469	469	227	216	0	0	227	0	0
Stage 1	240	240	-	229	229	-	-	-	-	-	-	-
Stage 2	233	229	-	240	240	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	501	492	824	505	492	812	1354	-	-	1341	-	-
Stage 1	763	707	-	774	715	-	-	-	-	-	-	-
Stage 2	770	715	-	763	707	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	492	487	824	500	487	812	1354	-	-	1341	-	-
Mov Cap-2 Maneuver	492	487	-	500	487	-	-	-	-	-	-	-
Stage 1	762	700	-	773	714	-	-	-	-	-	-	-
Stage 2	762	714	-	754	700	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	12.1	0	0.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1354	-	-	824	543	1341	-	-
HCM Lane V/C Ratio	0.001	-	-	0.001	0.068	0.009	-	-
HCM Control Delay (s)	7.7	0	-	9.4	12.1	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	4.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	161	15	60	19
Demand Flow Rate, veh/h	165	15	61	19
Vehicles Circulating, veh/h	0	96	60	76
Vehicles Exiting, veh/h	95	25	104	35
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.5	3.7	3.9	3.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	165	15	61	19
Cap Entry Lane, veh/h	1130	1027	1064	1047
Entry HV Adj Factor	0.979	0.980	0.984	1.000
Flow Entry, veh/h	161	15	60	19
Cap Entry, veh/h	1106	1006	1047	1047
V/C Ratio	0.146	0.015	0.057	0.018
Control Delay, s/veh	4.5	3.7	3.9	3.6
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	197	20	0	108	11	0
Future Vol, veh/h	197	20	0	108	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	207	21	0	114	12	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	228	0	332	218
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	-	-	4.12	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1340	-	621	822
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1340	-	621	822
Mov Cap-2 Maneuver	-	-	-	-	621	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	621	-	-	1340	-
HCM Lane V/C Ratio	0.019	-	-	-	-
HCM Control Delay (s)	10.9	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	152	88	0	0	20
Future Vol, veh/h	45	152	88	0	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	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	47	160	93	0	0	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	348	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	255	-
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	1501	-	-	-	649	964
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	788	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1501	-	-	-	629	964
Mov Cap-2 Maneuver	-	-	-	-	629	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1501	-	-	-	964
HCM Lane V/C Ratio	0.032	-	-	-	0.022
HCM Control Delay (s)	7.5	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	825	60	380	1450	66	90	168	126	144	398	172
Future Volume (vph)	72	825	60	380	1450	66	90	168	126	144	398	172
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	53.0	53.0	22.0	65.0	65.0	15.0	32.0	32.0	13.0	30.0	30.0
Total Split (%)	8.3%	44.2%	44.2%	18.3%	54.2%	54.2%	12.5%	26.7%	26.7%	10.8%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	44.1	38.9	38.9	15.9	52.6	52.6	27.1	18.2	18.2	27.1	21.2	21.2
Actuated g/C Ratio	0.43	0.38	0.38	0.16	0.51	0.51	0.26	0.18	0.18	0.26	0.21	0.21
v/c Ratio	0.47	0.65	0.09	0.75	0.84	0.08	0.34	0.28	0.33	0.44	0.57	0.40
Control Delay	23.1	28.7	0.2	54.0	27.8	1.0	31.9	38.8	6.3	34.2	43.4	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	28.7	0.2	54.0	27.8	1.0	31.9	38.8	6.3	34.2	43.4	12.2
LOS	C	C	A	D	C	A	C	D	A	C	D	B
Approach Delay		26.5			32.1			26.5			34.0	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 30.6	Intersection LOS: C
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Vollmer Rd & Stapleton Dr

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	0	7	51	1	31
Future Vol, veh/h	37	0	7	51	1	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	0	7	54	1	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	39	0	107	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	68	-
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	-	-	1571	-	891	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1571	-	887	1033
Mov Cap-2 Maneuver	-	-	-	-	887	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	950	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1028	-	-	1571	-
HCM Lane V/C Ratio	0.033	-	-	0.005	-
HCM Control Delay (s)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	67	0	5	2	255	20	2	542	2
Future Vol, veh/h	0	0	5	67	0	5	2	255	20	2	542	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	260	-	235	260	-	-
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	0	0	5	71	0	5	2	268	21	2	571	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	714	849	286	562	850	134	573	0	0	268	0	0
Stage 1	576	576	-	273	273	-	-	-	-	-	-	-
Stage 2	138	273	-	289	577	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	319	296	711	410	296	890	996	-	-	1293	-	-
Stage 1	470	500	-	710	683	-	-	-	-	-	-	-
Stage 2	851	683	-	694	500	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	316	295	711	406	295	890	996	-	-	1293	-	-
Mov Cap-2 Maneuver	316	295	-	406	295	-	-	-	-	-	-	-
Stage 1	469	499	-	709	682	-	-	-	-	-	-	-
Stage 2	844	682	-	688	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	15.4	0.1	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	996	-	-	711	422	1293	-	-
HCM Lane V/C Ratio	0.002	-	-	0.007	0.18	0.002	-	-
HCM Control Delay (s)	8.6	-	-	10.1	15.4	7.8	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	116	0	21	2	207	51	7	424	0
Future Vol, veh/h	0	0	5	116	0	21	2	207	51	7	424	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	260	-	0	260	-	-
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	0	0	5	122	0	22	2	218	54	7	446	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	683	683	446	686	683	218	446	0	0	218	0	0
Stage 1	461	461	-	222	222	-	-	-	-	-	-	-
Stage 2	222	222	-	464	461	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	363	372	612	362	372	822	1114	-	-	1352	-	-
Stage 1	581	565	-	780	720	-	-	-	-	-	-	-
Stage 2	780	720	-	578	565	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	351	369	612	357	369	822	1114	-	-	1352	-	-
Mov Cap-2 Maneuver	351	369	-	357	369	-	-	-	-	-	-	-
Stage 1	580	562	-	779	719	-	-	-	-	-	-	-
Stage 2	758	719	-	570	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	18.6	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1114	-	-	612	357	822	1352	-	-
HCM Lane V/C Ratio	0.002	-	-	0.009	0.342	0.027	0.005	-	-
HCM Control Delay (s)	8.2	-	-	10.9	20.2	9.5	7.7	-	-
HCM Lane LOS	A	-	-	B	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1.5	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	66	0	9	0	208	20	3	364	0
Future Vol, veh/h	0	0	1	66	0	9	0	208	20	3	364	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	235	-	-	-
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	0	0	1	69	0	9	0	219	21	3	383	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	613	608	383	609	608	219	383	0	0	219	0	0
Stage 1	389	389	-	219	219	-	-	-	-	-	-	-
Stage 2	224	219	-	390	389	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	405	410	664	407	410	821	1175	-	-	1350	-	-
Stage 1	635	608	-	783	722	-	-	-	-	-	-	-
Stage 2	779	722	-	634	608	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	399	409	664	405	409	821	1175	-	-	1350	-	-
Mov Cap-2 Maneuver	399	409	-	405	409	-	-	-	-	-	-	-
Stage 1	635	606	-	783	722	-	-	-	-	-	-	-
Stage 2	770	722	-	631	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	15.2	0	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1175	-	-	664	431	1350	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.183	0.002	-	-
HCM Control Delay (s)	0	-	-	10.4	15.2	7.7	0	-
HCM Lane LOS	A	-	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0	-	-

Intersection	
Intersection Delay, s/veh	3.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	53	56	38	27
Demand Flow Rate, veh/h	54	57	39	27
Vehicles Circulating, veh/h	10	45	45	93
Vehicles Exiting, veh/h	110	39	19	9
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.7	3.8	3.7	3.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	54	57	39	27
Cap Entry Lane, veh/h	1119	1080	1080	1030
Entry HV Adj Factor	0.990	0.981	0.974	1.000
Flow Entry, veh/h	53	56	38	27
Cap Entry, veh/h	1107	1060	1053	1030
V/C Ratio	0.048	0.053	0.036	0.026
Control Delay, s/veh	3.7	3.8	3.7	3.7
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	53	4	2	130	8	5
Future Vol, veh/h	53	4	2	130	8	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	4	2	137	8	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	60	0	199	58
Stage 1	-	-	-	-	58	-
Stage 2	-	-	-	-	141	-
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	-	-	1544	-	790	1008
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1544	-	789	1008
Mov Cap-2 Maneuver	-	-	-	-	789	-
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	885	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	861	-	-	1544	-
HCM Lane V/C Ratio	0.016	-	-	0.001	-
HCM Control Delay (s)	9.2	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	46	100	2	5	32
Future Vol, veh/h	12	46	100	2	5	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	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	13	48	105	2	5	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	107	0	-	0	180	106
Stage 1	-	-	-	-	106	-
Stage 2	-	-	-	-	74	-
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	1484	-	-	-	810	948
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1484	-	-	-	803	948
Mov Cap-2 Maneuver	-	-	-	-	803	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	941	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	925
HCM Lane V/C Ratio	0.009	-	-	-	0.042
HCM Control Delay (s)	7.4	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	1450	105	350	1200	115	205	550	372	143	276	140
Future Volume (vph)	241	1450	105	350	1200	115	205	550	372	143	276	140
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	24.0	55.0	55.0	20.0	51.0	51.0	23.0	31.0	31.0	14.0	22.0	22.0
Total Split (%)	20.0%	45.8%	45.8%	16.7%	42.5%	42.5%	19.2%	25.8%	25.8%	11.7%	18.3%	18.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	66.4	50.1	50.1	14.7	48.4	48.4	37.4	24.1	24.1	26.6	17.6	17.6
Actuated g/C Ratio	0.56	0.42	0.42	0.12	0.41	0.41	0.32	0.20	0.20	0.23	0.15	0.15
v/c Ratio	0.82	0.99	0.15	0.86	0.87	0.16	0.62	0.80	0.74	0.74	0.55	0.40
Control Delay	51.0	54.2	1.5	70.8	40.6	2.1	39.1	53.9	23.3	54.3	51.4	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	54.2	1.5	70.8	40.6	2.1	39.1	53.9	23.3	54.3	51.4	9.8
LOS	D	D	A	E	D	A	D	D	C	D	D	A
Approach Delay		50.6			44.2			41.1			41.8	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 45.5	Intersection LOS: D
Intersection Capacity Utilization 89.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Vollmer Rd & Stapleton Dr

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	66	1	25	47	1	20
Future Vol, veh/h	66	1	25	47	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	1	26	49	1	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	71	0	172	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	102	-
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	-	-	1529	-	818	993
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	804	993
Mov Cap-2 Maneuver	-	-	-	-	804	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	906	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	982	-	-	1529	-
HCM Lane V/C Ratio	0.023	-	-	0.017	-
HCM Control Delay (s)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Are these (2-lane) necessary?

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	2	44	0	3	4	725	68	5	450	2
Future Vol, veh/h	0	0	2	44	0	3	4	725	68	5	450	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	260	-	235	260	-	-
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	0	0	2	46	0	3	4	763	72	5	474	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	875	1257	238	1019	1258	382	476	0	0	763	0	0
Stage 1	485	485	-	772	772	-	-	-	-	-	-	-
Stage 2	390	772	-	247	486	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	243	170	763	191	170	616	1082	-	-	845	-	-
Stage 1	532	550	-	358	407	-	-	-	-	-	-	-
Stage 2	606	407	-	735	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	240	168	763	189	168	616	1082	-	-	845	-	-
Mov Cap-2 Maneuver	240	168	-	189	168	-	-	-	-	-	-	-
Stage 1	530	547	-	357	405	-	-	-	-	-	-	-
Stage 2	601	405	-	729	546	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	29.1	0	0.1
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1082	-	-	763	198	845	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.25	0.006	-	-
HCM Control Delay (s)	8.3	-	-	9.7	29.1	9.3	-	-
HCM Lane LOS	A	-	-	A	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	76	0	14	5	550	172	24	378	0
Future Vol, veh/h	0	0	3	76	0	14	5	550	172	24	378	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	260	-	0	260	-	-
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	0	0	3	80	0	15	5	579	181	25	398	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1037	1037	398	1039	1037	579	398	0	0	579	0	0
Stage 1	448	448	-	589	589	-	-	-	-	-	-	-
Stage 2	589	589	-	450	448	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	209	231	652	209	231	515	1161	-	-	995	-	-
Stage 1	590	573	-	494	495	-	-	-	-	-	-	-
Stage 2	494	495	-	589	573	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	198	224	652	203	224	515	1161	-	-	995	-	-
Mov Cap-2 Maneuver	198	224	-	203	224	-	-	-	-	-	-	-
Stage 1	587	559	-	492	493	-	-	-	-	-	-	-
Stage 2	478	493	-	571	559	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	30.4	0.1	0.5
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1161	-	-	652	203	515	995	-	-
HCM Lane V/C Ratio	0.005	-	-	0.005	0.394	0.029	0.025	-	-
HCM Control Delay (s)	8.1	-	-	10.5	33.8	12.2	8.7	-	-
HCM Lane LOS	A	-	-	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1.8	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	44	0	6	1	497	66	10	357	0
Future Vol, veh/h	0	0	1	44	0	6	1	497	66	10	357	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	235	-	-	-
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	0	0	1	46	0	6	1	523	69	11	376	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	925	922	376	922	922	523	376	0	0	523	0	0
Stage 1	397	397	-	525	525	-	-	-	-	-	-	-
Stage 2	528	525	-	397	397	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	250	270	670	251	270	554	1182	-	-	1043	-	-
Stage 1	629	603	-	536	529	-	-	-	-	-	-	-
Stage 2	534	529	-	629	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	245	266	670	248	266	554	1182	-	-	1043	-	-
Mov Cap-2 Maneuver	245	266	-	248	266	-	-	-	-	-	-	-
Stage 1	628	595	-	535	528	-	-	-	-	-	-	-
Stage 2	527	528	-	620	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	21.8	0	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1182	-	-	670	266	1043	-	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.198	0.01	-	-
HCM Control Delay (s)	8	0	-	10.4	21.8	8.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0	-	-

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	152	50	24	18
Demand Flow Rate, veh/h	155	51	24	18
Vehicles Circulating, veh/h	8	52	99	71
Vehicles Exiting, veh/h	81	71	64	32
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.5	3.8	3.7	3.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	155	51	24	18
Cap Entry Lane, veh/h	1121	1073	1023	1052
Entry HV Adj Factor	0.979	0.982	1.000	1.000
Flow Entry, veh/h	152	50	24	18
Cap Entry, veh/h	1097	1054	1023	1052
V/C Ratio	0.138	0.048	0.023	0.017
Control Delay, s/veh	4.5	3.8	3.7	3.6
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	181	15	5	85	5	3
Future Vol, veh/h	181	15	5	85	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	191	16	5	89	5	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	206	0	298	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	100	-
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	-	-	1365	-	693	843
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1365	-	690	843
Mov Cap-2 Maneuver	-	-	-	-	690	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	740	-	-	1365	-
HCM Lane V/C Ratio	0.011	-	-	0.004	-
HCM Control Delay (s)	9.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	141	70	6	4	21
Future Vol, veh/h	43	141	70	6	4	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	100	-	-	-	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	45	148	74	6	4	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	80	0	-	0	316	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	239	-
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	1518	-	-	-	677	984
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	801	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1518	-	-	-	657	984
Mov Cap-2 Maneuver	-	-	-	-	657	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1518	-	-	-	911
HCM Lane V/C Ratio	0.03	-	-	-	0.029
HCM Control Delay (s)	7.4	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Development Services Department
2880 International Circle
Colorado Springs, Colorado 80910

Phone: 719.520.6300
Fax: 719.520.6695
Website www.elpasoco.com

DEVIATION REVIEW AND DECISION FORM

Procedure # R-FM-051-07
Issue Date: 12/31/07
Revision Issued: 00/00/00
DSD FILE NO.:

General Property Information:
Address of Subject Property (Street Number/Name): VOLLMER RD
Tax Schedule ID(s) #: 5228000019
Legal Description of Property: SE4NE4 SEC 28-12-65
Subdivision or Project Name: RETREAT/TRAILS AT TIMBER RIDGE

Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification and 2.2.4 Roadway Functional Classifications and Urban/Rural Designations.
Specific Criteria from Which a Deviation is Sought: Section 2.3.2 Table 2-7: ROW on an Urban Residential Collector street and no Median on Residential Collector Streets; 2.2.4.B.5 Typical Urban Residential Cross Section.

Proposed Nature and Extent of Deviation: The proposed deviation is to allow an 80-foot right-of-way for the proposed east/west collector street, an 8-foot-wide center raised median, and a meandering 5-foot detached sidewalk instead of a detached sidewalk with a uniform 4-foot buffer area from the curb.

Applicant Information:
Applicant: ARROYO INVESTMENTS LLC Email Address: pmartzlrg@comcast.net
Applicant is: __X___ Owner _____ Consultant _____ Contractor
Mailing Address: 1283 KELLY JOHNSON BLVD State: CO Postal Code: 80920
Telephone Number: (719) 491-3150 Fax Number:_____

Engineer Information:
Engineer: Jeffrey C. Hodsdon Email Address: jeff@lsccs.com
Company Name: LSC Transportation Consultants, Inc.
Mailing Address: 545 East Pikes Peak Ave., Colorado Springs State: CO Postal Code: 80903
Registration Number: 31684 State of Registration: CO
Telephone Number:719-633-2868 Fax Number:719-633-5430

Explanation of Request (Attached diagrams, figures and other documentation to clarify request):
Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification and 2.2.4 Roadway Functional Classifications and Urban/Rural Designations.
Specific Criteria from Which a Deviation is Sought: Section 2.3.2 Table 2-7: ROW on an Urban Residential Collector street and no Median on Residential Collector Streets; 2.2.4.B.5 Typical Urban Residential Cross Section.

Proposed Nature and Extent of Deviation: The proposed deviation is to allow an 80-foot right-of-way for the proposed east/west collector street, an 8-foot-wide center raised median, and a meandering 5-foot detached sidewalk instead of a detached sidewalk with a uniform 4-foot buffer area from the curb. Please refer to the attached cross section and plan view exhibits.

Reason for the Requested Deviation: The overall intent of the community plan is to avoid streets lined with back fences instead of homes. As such, a good portion of the frontage of the proposed Collector streets is planned to have TND-style homes fronting the streets (no driveways fronting, however). The proposed deviation would allow the paved width in excess of the area used for the driving lanes to be used for on-street parking.

Comparison of Proposed Deviation to ECM Standard: The proposed deviation is to allow an 80-foot ROW instead of the standard 60-foot ROW for the proposed east/west Urban Residential Collector street, an 8-foot-wide center raised median instead of no median, which is the standard, and a meandering 5-foot detached sidewalk instead of a detached sidewalk with a uniform 4-foot buffer area from the curb. The overall landscaped area between the curb and the right-of-way line would be expanded to accommodate the meandering sidewalk and additional landscaping areas.

Applicable Regional or National Standards used as Basis:

Application Consideration:

CHECK IF APPLICATION MEETS CRITERIA FOR CONSIDERATION	**JUSTIFICATION**
☐ The ECM standard is inapplicable to a particular situation.	
☐Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.	_____ _____ _____ _____ _____
▣ A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.	The change is required to allow the applicant to construct a main entry street with enhanced landscaping in a raised center median and along the sides of the street to create a more prominent and attractive entry to the community.

If at least one of the criteria listed above is not met, this application for deviation cannot be considered.

Criteria for Approval:

PLEASE EXPLAIN HOW EACH OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED BY THIS REQUEST	
The request for a deviation is not based exclusively on financial considerations.	This deviation is requested to allow the applicant to construct a more prominent and attractive entry to the community. This will assist with the marketing of the project, but will remain for the benefit of the future residents, their guests, and the community as a whole.
The deviation will achieve the intended result with a comparable or superior design and quality of improvement.	This deviation will create a superior design as it will create a more prominent and attractive entry to the community. One through lane in each direction will be provided along with a paved outside shoulder, consistent with the standard. The other design elements will be the same except the streetscape area will be expanded and the detached sidewalk will follow a meandering alignment rather than a straight alignment. The raised median would work well for a seamless connection to the raised splitter islands for the proposed roundabout.
The deviation will not adversely affect safety or operations.	This proposed Collector street would have an 8-foot-wide raised center median. The landscaping for this median and the roadside landscaping would need to meet sight distance criteria. The street would have one through lane in each direction along with a paved outside shoulder, consistent with the standard. The median noses at intersections would be designed to accommodate turning passenger vehicles and the design vehicle for this classification. The other design elements of the Urban Residential Collector street cross section would be the same except the streetscape area will be expanded and the detached sidewalk will follow a meandering alignment rather than a straight alignment. The median would be expanded to 17 feet (including a 12-foot-wide left-turn lane and 5-foot raised median nose) where left-turn lanes are required per ECM turn lane criteria.

The deviation will not adversely affect maintenance and its associated cost.	The median and additional landscaping would increase the maintenance cost, however the metro district would be responsible for maintenance rather than the County.
The deviation will not adversely affect aesthetic appearance.	The landscaped median and enhanced streetscape would result in a more aesthetic appearance.

Owner, Applicant and Engineer Declaration:
To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

_____ _____
Signature of owner (or authorized representative) Date

_____ _____
Signature of applicant (if different from owner) Date

_____ 4/13/17
Signature of Engineer Date

Engineer's Seal

Review and Recommendation:
APPROVED by the ECM Administrator

_____ Date_____

This request has been determined to have met the criteria for approval. A deviation from Section _____ of ECM is hereby granted based on the justification provided. Comments:

_____
_____
_____
_____

____ Additional comments or information are attached.

DENIED by the ECM Administrator

_____ Date_____

This request has been determined not to have met criteria for approval. A deviation from Section _____ of ECM is hereby denied. Comments:

_____
_____
_____
_____

____ Additional comments or information are attached.

Development Services Department
2880 International Circle
Colorado Springs, Colorado 80910

Phone: 719.520.6300
Fax: 719.520.6695
Website www.elpasoco.com

DEVIATION REVIEW AND DECISION FORM

Procedure # R-FM-051-07
Issue Date: 12/31/07
Revision Issued: 00/00/00
DSD FILE NO.:

General Property Information:
Address of Subject Property (Street Number/Name): VOLLMER RD
Tax Schedule ID(s) #: 5228000019
Legal Description of Property: SE4NE4 SEC 28-12-65
Subdivision or Project Name: RETREAT/TRAILS AT TIMBER RIDGE

Section of ECM from Which Deviation is Sought: 2.2.5.D Collector Access Standards; 2.3.2 Design Standards by Functional Classification.

Specific Criteria from Which a Deviation is Sought: Table 2-5 identifies a minimum intersection spacing of 660 feet along a Rural Minor Collector roadway.

Proposed Nature and Extent of Deviation: Staff has requested that Arroya Lane be planned as a potential future Rural Minor Collector Roadway east of Vollmer Road. Table 2-5 identifies a minimum intersection spacing of 487 feet along Arroya Lane between the easternmost proposed public street on the south side and the access to the ten lots on the north side.

Applicant Information:
Applicant: ARROYO INVESTMENTS LLC Email Address: pmartzlrg@comcast.net
Applicant is: __X___ Owner _____ Consultant _____ Contractor
Mailing Address: 1283 KELLY JOHNSON BLVD State: CO Postal Code: 80920
Telephone Number: (719) 491-3150 Fax Number:_____

Engineer Information:
Engineer: Jeffrey C. Hodsdon Email Address: jeff@lsccs.com
Company Name: LSC Transportation Consultants, Inc.
Mailing Address: 545 East Pikes Peak Ave., Colorado Springs State: CO Postal Code: 80903
Registration Number: 31684 State of Registration: CO
Telephone Number:719-633-2868 Fax Number:719-633-5430

Explanation of Request (Attached diagrams, figures and other documentation to clarify request):
Section of ECM from Which Deviation is Sought: 2.2.5.D Collector Access Standards; 2.3.2 Design Standards by Functional Classification.

Specific Criteria from Which a Deviation is Sought: Table 2-5 identifies a minimum intersection spacing of 660 feet along a Rural Minor Collector roadway.

Proposed Nature and Extent of Deviation: Staff has requested that Arroya Lane be planned as a potential future Rural Minor Collector Roadway east of Vollmer Road. Table 2-5 identifies a minimum intersection spacing of 487 feet along Arroya Lane between the easternmost proposed public street on the south side and the access to the ten lots on the north side.

Reason for the Requested Deviation:
Comparison of Proposed Deviation to ECM Standard: The proposed spacing would be 487 feet which would be 173 feet closer than the required 660-foot spacing.

Applicable Regional or National Standards used as Basis:

Application Consideration:

CHECK IF APPLICATION MEETS CRITERIA FOR CONSIDERATION	JUSTIFICATION
☐ The ECM standard is inapplicable to a particular situation.	
▣Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.	The locations for the easternmost access on the south side of Arroya and the easternmost access on the north side have been selected to maximize the distance between the two while considering the constraints of Sand Creek, the east property line, the angled property line on the west side of the portion of the property planned for ten lots, the required centerline radius for a rural local roadway (for the north side lots), the required lot sizes and the desired lot layout. The combination of these constraints will necessitate the 487-foot offset between these two planned intersections. The access placement in this location would not interfere with any existing or proposed auxiliary turn lanes. The access spacing would be sufficient for safe operations and turning movements. Neither access is likely to require left-turn auxiliary turn lanes.
☐ A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.	

If at least one of the criteria listed above is not met, this application for deviation cannot be considered.

Criteria for Approval:

PLEASE EXPLAIN HOW EACH OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED BY THIS REQUEST

The request for a deviation is not based exclusively on financial considerations.	The deviation is not based exclusively on financial considerations -- it is requested due to topographic and property ownership constraints combined with required lot sizes and the desired lot layout.
The deviation will achieve the intended result with a comparable or superior design and quality of improvement.	The location for the access has been selected to maximize the distance between the two while considering the constraints. The access placement in this location would not interfere with any existing or proposed auxiliary turn lanes. Neither access is likely to require left-turn auxiliary turn lanes.
The deviation will not adversely affect safety or operations.	The proposed offset of 487 feet will not adversely affect safety or operations of the future Rural Minor Collector. The access placement in this location would not interfere with any existing or proposed auxiliary turn lanes. Neither intersection is likely to require left-turn auxiliary turn lanes. The proposed spacing of the intersections at 487 feet exceeds the ECM-prescribed stopping sight distance along Arroya Lane.
The deviation will not adversely affect maintenance and its associated cost.	The deviation would not adversely affect maintenance and its associated cost.
The deviation will not adversely affect aesthetic appearance.	The deviation would not adversely affect aesthetic appearance.

Owner, Applicant and Engineer Declaration:
To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

_____ _____
Signature of owner (or authorized representative) Date

_____ _____
Signature of applicant (if different from owner) Date

_____ 4/17/17
Signature of Engineer Date

Engineer's Seal

Review and Recommendation:
APPROVED by the ECM Administrator

_____ Date_____
This request has been determined to have met the criteria for approval. A deviation from Section _____ of ECM is hereby granted based on the justification provided. Comments:

_____
_____
_____
_____

____ Additional comments or information are attached.

DENIED by the ECM Administrator

_____ Date_____
This request has been determined not to have met criteria for approval. A deviation from Section _____ of ECM is hereby denied. Comments:

_____
_____
_____
_____

____ Additional comments or information are attached.

Markup Summary

Unlocked (7)

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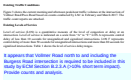
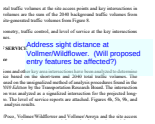
Page Label: 1
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 5/25/2017 2:15:55 PM
Color:

Sign and date



Subject: Text Box
Page Label: 3
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 5/25/2017 4:08:07 PM
Color:

It appears that Vollmer Road north to and including the Burgess Road intersection is required to be included in this study by ECM Section B.2.3.A (>10% short term impact). Provide counts and analysis.

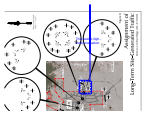


Subject: Text Box
Page Label: 6
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 5/25/2017 4:20:38 PM
Color:

Address sight distance at Vollmer/Wildflower. (Will proposed entry features be affected?)

Subject: Text Box
Page Label: 7
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 5/25/2017 3:59:20 PM
Color:

Provide a recommended improvements and responsibilities table including contribution to the widening of Vollmer Road and the traffic signal at Vollmer/Briargate.



Subject: Cloud+
Page Label: 19
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 5/25/2017 3:49:33 PM
Color:

This seems high - verify evaluation

Subject: Cloud+
Page Label: 40
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 5/25/2017 4:08:59 PM
Color:

Are these (2-lane) necessary?

Subject: Cloud+
Page Label: 73
Lock: Unlocked
Status:
Checkmark: Unchecked
Author: dsdrice
Date: 5/25/2017 4:09:26 PM
Color:

Are these (2-lane) necessary?