LSC TRANSPORTATION CONSULTANTS, INC.
545 East Pikes Peak Avenue, Suite 210
Colorado Springs, CO 80903
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: http://www.lsctrans.com

The Glen at Widefield Filing No. 9
Transportation Memorandum
PCD File No. SF185
(LSC #174850)
May 18, 2018

Traffic Engineer's Statement

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

Developer's Statement

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

May 24th 2018
Date

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May 18, 2018

Mr. J. Ryan Watson
Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911

RE: The Glen at Widefield Filing No. 9
Transportation Memorandum
PCD File No. SF185
El Paso County, Colorado
LSC #174850

Dear Mr. Watson:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated transportation memorandum for The Glen at Widefield Filing No. 9. As shown in Figure 1, the site is located northwest of the Marksheffel Road/Mesa Ridge Parkway intersection in El Paso County, Colorado. Filing 9 is planned to contain 106 lots for single-family homes. This memorandum is a supplement to the overall Glen at Widefield East Preliminary Plan traffic report dated January 18, 2016. Please contact our office to obtain a copy of this report, if needed.

A copy of the plat for the 106 single-family lots is attached for reference. The lot and street layout for this filing matches the Preliminary Plan.

REPORT CONTENTS

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of this development. The report contains the following:

- Updated traffic count data.
- Projections of short-term (2022) baseline/background traffic volumes at the key area intersections.
- The projected average weekday and peak-hour vehicle-trips to be generated by Filing No. 9.
- The assignment of the Filing No. 9 projected trips to the key area intersections for the short term.
- The short-term level of service at these intersections.
- The short-term level of service and queuing analysis at the intersection of Powers Boulevard/ Mesa Ridge Parkway.
- Findings and recommendations.
- Signal escrow analysis tables.

LAND USE AND ACCESS

Since completion of the 2016 Glen at Widefield East Preliminary Plan Traffic Report, 249 of the 577 proposed lots for single-family homes within the preliminary plan area have been platted as The Glen at Widefield Filings 7 and 8. At the time traffic counts were conducted in March 2018 about 59 homes have been constructed in The Glen at Widefield Filing 7. Mesa Ridge Parkway has been extended east to Marksheffel Road. Primary access for these filings is via the new intersection of Spring Glen Drive and the recently completed section of Mesa Ridge Parkway. A secondary access to Marksheffel Road is currently under construction that will align with Peaceful Valley Road.

The currently proposed Glen at Widefield Filing No. 9 is planned to contain 106 lots for single-family homes. Figure 2 shows the location of The Glen at Widefield Filing Nos. 7, 8, and 9. No additional access is proposed with this filing.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

Figure 1 shows the roadways in the vicinity of the site. The major roadways are identified below, followed by a brief description of each.

Powers Boulevard is a four-lane Expressway extending north from Mesa Ridge Parkway. In the future, Powers Boulevard is planned to be extended south to connect to Interstate 25, potentially at Exit 122. In the vicinity of the site, Powers Boulevard has two through lanes in each direction and a posted speed limit of 55 miles per hour (mph). The Colorado Department of Transportation has been collecting escrow funds from the previous Glen at Widefield filings as participation toward the recently installed traffic signal at the intersection of Mesa Ridge/Powers.

Marksheffel Road extends north from the Link Road/C&S Road intersection in Fountain, Colorado to north of Woodmen Road. Marksheffel has recently been upgraded to an interim three-lane facility between Mesa Ridge Parkway and Bradley Road as part of a PPRTA project. Marksheffel Road is shown as a future four-lane Expressway on the El Paso County *Major Transportation Corridors Plan (MTCP)*. The posted speed limit on Marksheffel Road is 55 mph north of Mesa Ridge Parkway and 45 mph south of Mesa Ridge Parkway.

Mesa Ridge Parkway is a four-lane median-divided Principal Arterial extending east from I-25 to Powers Boulevard. A half-section of Mesa Ridge Parkway with one through lane in each direction has been constructed east from Powers Boulevard to Marksheffel Road. It is our understanding that the construction of the other half-section is not the applicant's responsibility. LSC estimates that Mesa Ridge Parkway will likely need to be widened to provide two lanes in each direction once the average weekday traffic volumes reach 14,000 to 18,000 vehicles per day. Mesa Ridge

Parkway improvement are listed as an "A-List" PPRTA project. The posted speed limit in the vicinity of the site is 45 mph.

Peaceful Valley Road is a two-lane City of Fountain street that extends east from Marksheffel Road about two-and-a-half miles to the location of a future extension of Meridian Road. The posted speed limit on Peaceful Valley Road is 30 mph. Most of Peaceful Valley Road is located within the City of Fountain.

Notable Recent Area Roadway System Improvements

The Marksheffel South project has been completed, a traffic signal has been installed at the intersection of Mesa Ridge Parkway and Powers, and it is our understanding that this signal has only been fully operational since early January. The temporary Roanfield Drive street connection to Powers Boulevard has been closed. Also, the southbound left-turn lane at the Mesa Ridge/ Powers intersection has been lengthened as required with The Glen at Widefield Filing No. 7. The Marksheffel painted center median at the intersection of Peaceful Valley Road/ Marksheffel Road has been striped as a channelized T-configuration (with southbound left-turn deceleration and left-turn acceleration lanes). The configuration may need to change through restriping of the center painted median with the addition of the fourth/west leg of this intersection with The Glen at Widefield Filing No. 8.

EXISTING TRAFFIC VOLUMES

Figure 3 shows the existing peak-hour traffic volumes and existing lane geometries and traffic controls. The traffic volumes are based on traffic counts conducted by LSC in March 2018. These counts were taken after the signal was installed and placed into operation at the intersection of Powers/Mesa Ridge Parkway. Note: The through traffic volumes at the intersection of Peaceful Valley Road/Marksheffel were adjusted based on the 2018 count at Marksheffel/Mesa Ridge Parkway. The left and right turning movements at this intersection were not re-counted as it is unlikely that the installation of the signal at Mesa Ridge/Powers would affect those turning movements. No significant new development/new home construction has recently occurred in the area served by Peaceful Valley Road in the past 12 months. The traffic count reports are attached.

LEVEL OF SERVICE

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

Table 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 intersections of Powers/Mesa Ridge, Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley were analyzed to determine the existing levels of service. The intersection of Powers/Mesa Ridge was analyzed using Synchro. The intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley were analyzed using the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board.

The intersection of Powers/Mesa Ridge was recently signalized and as such, the intersection has been analyzed as a signalized intersection. The current signal timing has been estimated by LSC. It is currently operating at an overall LOS B or better during the peak hours. The westbound left-turn movement at this intersection is operating at LOS D during the peak hours.

All movements at the stop-sign-controlled intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley are currently operating at LOS C or better during the peak hours.

SHORT-TERM (YEAR 2022) BACKGROUND TRAFFIC

Figure 4a shows the short-term background traffic volumes at the key area intersections. Background traffic is the traffic estimated to be on the roadways without the Glen at Widefield Filing No. 9 traffic.

Background traffic includes the existing traffic volume (from Figure 3) plus increases in through traffic due to regional growth plus traffic estimated to be generated by buildout of existing and currently proposed subdivisions in the vicinity of the site. These estimates include traffic projected to be generated by the development of the 190 single-family homes within The Glen at Widefield Filing Nos. 7 and 8 that were unoccupied when traffic counts were conducted in March 2018 and traffic projected to be generated by buildout of all the existing and currently

proposed developments within the Lorson Ranch development located east of the intersection of Marksheffel/Fontaine.

Increases in the through traffic volumes on Powers Boulevard were estimated based on the growth rate calculated from the Colorado Department of Transportation 20-year growth factor for this section of Powers Boulevard.

Figure 4b shows the lane geometry, traffic control, and level of service at the key area intersections of based on the short-term background volumes.

TRIP GENERATION

The Filing No. 9 site-generated vehicle-trips have been estimated using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates for this filing.

Filing 9 is expected to generate 1,001 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 20 vehicles would enter and 59 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 66 vehicles would enter and 39 vehicles would exit the site.

SITE-GENERATED TRAFFIC

Figure 5 shows the projected short-term site-generated traffic volumes for Filing No. 9. These volumes are based on the distribution and short-term roadway system assumptions contained in The Glen at Widefield East Preliminary Plan report (please refer to this report for additional detail) and the access plan for The Glen at Widefield Filing 9 only, as described above.

SHORT-TERM TOTAL TRAFFIC

Figure 6a shows the projected short-term total traffic volumes at the key areas. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 4) plus the Filing No. 9 short-term site-generated traffic volumes (from Figure 5).

Figure 6b shows the lane geometry, traffic control, and level of service at the key area intersections of based on the short-term total volumes.

LEVEL OF SERVICE

The intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley were analyzed to determine the projected levels of service based on the short-term background and total traffic volumes using the unsignalized method of analysis procedures outlined in the *Highway Capacity*

Manual, 6th Edition by the Transportation Research Board. The signalized intersection of Powers/ Mesa Ridge was analyzed using Synchro. The results of the analysis are shown in Figures 4b and 6b.

All movement at the intersection of Powers/Mesa Ridge is projected to continue to operate at a LOS D or better during the peak hours based on the projected short-term background and total peak-hour traffic volumes.

All movements at the stop-sign-controlled intersections of Marksheffel/Mesa Ridge and Marksheffel/Peaceful Valley are projected to operate at LOS C or better during the peak hours.

Please refer to the Glen at Widefield East Preliminary Plan traffic report for the long-term analysis of the key area intersections.

QUEUING ANALYSIS

A queuing analysis has been performed for the southbound and westbound left turn at Powers/ Mesa Ridge. The analysis has been completed based on dual left-turn lanes with existing length for the westbound Mesa Ridge left-turn lane, the recently extended southbound left-turn lane, and projected short-term total traffic.

The maximum southbound left-turn queue on Powers Boulevard approaching Mesa Ridge Parkway is projected to be about 237 feet long based on the projected short-term total traffic volumes. The southbound left-turn lane has recently been lengthened to 1,108 feet plus a 222-foot taper.

The maximum westbound left-turn queue on Mesa Ridge Parkway approaching Powers Boulevard is projected to be about 301 feet long based on the projected short-term total traffic volumes assuming dual westbound left-turn lanes.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- Filing 9 is expected to generate 1,001 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 20 vehicles would enter and 59 vehicles would exit the site. During the afternoon peak hour about 66 vehicles would enter and 39 vehicles would exit the site.

Level of Service

- The signalized intersection of Mesa Ridge Parkway/Powers Boulevard is projected to continue to operate at a satisfactory level of service based on the projected short-term background and total peak-hour traffic volumes.

- The intersections of Marksheffel/Peaceful Valley Road and Mesa Ridge Parkway/Spring Glen Drive (the two access points to Filing No. 9) and the intersection of Marksheffel/Mesa Ridge would operate at satisfactory levels of service as stop-sign-controlled intersections based on the projected short-term background and total peak-hour traffic volumes.

Intersection Lane Configurations

- A 475-foot left-turn lane approaching Spring Glen Drive has been installed with the construction of Mesa Ridge Parkway.

- Mesa Ridge Parkway has been constructed and striped with 10-foot paved shoulders in the vicinity of Spring Glen Drive. Once the full four-lane Principal Arterial section is completed, it is anticipated that the acceleration lane will be implemented at that time. The width for a future westbound right-turn acceleration lane on Mesa Ridge Parkway will become available as the half-section to be built with the initial Mesa Ridge construction will be sufficiently wide. This has been shown on the Mesa Ridge Parkway design plans.

- The addition of Filing No. 9 site-generated traffic will not require the addition a westbound right-turn deceleration lane on Mesa Ridge Parkway at Spring Glen Drive.

- The painted center median on Marksheffel Road at the Peaceful Valley Road intersection is currently striped for a dedicated southbound left turn lane and a dedicated southbound left-turn acceleration lane. The west leg of this intersection is planned to be completed and opened in the short term to provide a second access to the Glen at Widefield East. This painted center median may need to be restriped as this intersection will no longer be a T-intersection, rather a four-leg intersection. LSC has provided a copy of this TIS to El Paso County Department of Public Works (DPW) for their review of the following two alternatives for review/consideration (this intersection is controlled by El Paso County and it would be an El Paso County Public Works decision to restripe/reconfigure the center median):

    - Remove the white channelized T pavement markings from the center of the intersection and convert the center painted median striping to two-way, left-turn lane (TWLTL) striping from the south side of the Marksheffel/Peaceful Valley intersection south for 1,300 feet to the beginning of the existing TWLTL striping north of the intersection with Mesa Ridge Parkway **(LSC-Recommended).**

    - Maintain the existing southbound left-turn acceleration lane south of Peaceful Valley Road but remove the white channelized T pavement markings from the center of the intersection.

    LSC will prepare and submit a signing/striping modification plan for review and approval based on direction from EPC DPW.

Did the Traffic Study for the Marksheffel Road project require the SB accel lane to enable merging onto the flow of traffic or was it dead space they used as an accel lane until the 4th leg is converted.
On the second option, what effect does it have to LOS/queuing at the intersection? Does the Filing 9 development warrant a left turn at this intersection?

- The southbound left-turn lane on Powers Boulevard approaching Mesa Ridge Parkway has recently been lengthened as part of the Glen at Widefield Filing 7 access permit. The level of

service analysis and queueing analysis for the short-term total traffic volumes indicates acceptable operations with the current single-lane configuration.

- Based on the projected short-term and total traffic volumes, Mesa Ridge Parkway should be widened approaching Powers Boulevard to provide dual westbound left-turn lanes. Based on the queueing analysis, dual 350-foot left turn lanes (plus transition taper) would be adequate to accommodate the projected queues. Deceleration distance would not be necessary, as Powers/Mesa Ridge is a T-intersection. New redirect tapers would be required east of the dual left turn lanes to transition to the existing cross section. The taper ratio should be 45:1.

Proposed Subdivision Street Classifications

- Figure 7 shows the recommended street classifications for the entire Preliminary Plan, including Filing 9.

Mesa Ridge Parkway/Powers Boulevard Intersection

- CDOT has agreed to a signal escrow amount of $107,018 for all of Glen at Widefield East. The number of total lots in the Preliminary Plan has been reduced to 578 and therefore the corresponding escrow amount would be $103,960 for all of Glen at Widefield East. For purposes of the Filing 9 access permit, the amount would be $19,065. Table 3 presents the signal escrow analysis including the previously identified amount for Filings 7 and 8 and the remaining amount for future filings.

- CDOT will require the submittal of an access permit application with this filing for purposes of processing the signal escrow and for work in the CDOT right-of-way to construct the westbound dual left-turn lanes and any associated traffic signal modifications. A new Access Permit and associated Notice-to-Proceed will be required.

Mesa Ridge Parkway/Spring Glen Drive Signal Escrow

- The Glen East Preliminary Plan traffic report contains an estimated signal escrow amount for the entire Preliminary Plan and states that the developer's percentage contribution toward this signal will be calculated and a proportional contribution made toward the signal construction with each filing. The estimated proportional contribution for Filing 9 is $6,189. Table 4 presents the signal escrow analysis for this intersection including the previously identified amount for Filings 7 and 8 and the remaining amount for future filings.

Marksheffel Road/Peaceful Valley Road

- The Glen at Widefield East Preliminary Plan traffic report contains an estimated escrow amount for the Preliminary Plan and states that the developer's percentage contribution toward this signal will be calculated and a proportional contribution made toward the signal construction with each filing. The estimated proportional contribution for Filing 9 is $6,648.

Table 5 presents the signal escrow analysis for this intersection including the previously identified amount for Filings 7 and 8 and the remaining amount for future filings.

ROADWAY IMPROVEMENT FEE PROGRAM

- This project will be required to participate in the El Paso County Road Improvement Fee Program. The Glen at Widefield Filing No. 9 will join the ten-mil PID. The ten-mil PID building permit fee portion associated with this option is $923 per single-family dwelling unit. Based on 101 lots, the total building permit fee would be $97,838.

* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH:KDF:bjwb

Enclosures: Tables 2-5
Figures 1-7
Filing No. 9 Plat
Traffic Count Reports
Level of Service Reports
Queuing Reports

Table 2
Trip Generation Estimate
The Glen at Widefield Filing No. 9

Filing	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Trip Generation Rates [1] Morning Peak Hour In	Trip Generation Rates [1] Morning Peak Hour Out	Trip Generation Rates [1] Afternoon Peak Hour In	Trip Generation Rates [1] Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Total Trips Generated Morning Peak Hour In	Total Trips Generated Morning Peak Hour Out	Total Trips Generated Afternoon Peak Hour In	Total Trips Generated Afternoon Peak Hour Out
Approved Filings													
7	210	Single-Family Detached Housing	148 DU[2]	9.44	0.19	0.56	0.62	0.37	1,397	27	82	92	54
8	210	Single-Family Detached Housing	101 DU	9.44	0.19	0.56	0.62	0.37	953	19	56	63	37
			249 DU						**2,351**	**46**	**138**	**155**	**91**
Currently Proposed Filing													
9	210	Single-Family Detached Housing	106 DU[2]	9.44	0.19	0.56	0.62	0.37	1,001	20	59	66	39
		Total Filings 7-9	**355 DU**						**3,351**	**66**	**197**	**221**	**130**
Future Filings													
11	210	Single-Family Detached Housing	40 DU[2]	9.44	0.19	0.56	0.62	0.37	378	7	22	25	15
12	210	Single-Family Detached Housing	103 DU	9.44	0.19	0.56	0.62	0.37	972	19	57	64	38
13	210	Single-Family Detached Housing	79 DU	9.44	0.19	0.56	0.62	0.37	746	15	44	49	29
			222 DU						**2,096**	**41**	**123**	**138**	**81**
		Total Filings 7-13	**577 DU**						**1,123**	**22**	**66**	**74**	**44**

Notes:
(1) Source: "*Trip Generation, 10th Edition, 2017*" by the Institute of Transportation Engineers (ITE)
(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

Table 3
Glen East Preliminary Plan CDOT Access Permit and Escrow Analysis
Mesa Ridge & Powers (SH 21)
Filings 7, 8, 9 and Future Filings

Shown in TIS	Subdivisions Currently Proposed			Currently Proposed Separate Access Permits and Escrow Amounts per Access Permit			
Number of Lots	Subdivision Name	Number of Lots	Status	Portion of total Escrow of $103,960	Access Permits	Access Permit Escrow Amt.	Escrow to be deposited in account with CDOT
148	Filing 7	148	Platted	$26,648	**Approved**	$26,648	NTP Issued; Turn Lane Extended
101	Filing 8	101	Plat Approved - not recorde	$18,166	**Application pending**	$18,166	Prior to issuance of NTP
106	Filing 9	106	Pending	$19,065	**Application to be submitted soon**	$19,065	Prior to issuance of NTP
223	Remaining Filings	223	Future	$40,081	**Application(s) not submitted**	TBD	

Source: LSC Transportation Consultants, Inc.

Table 4
Glen East Preliminary Plan County Intersection Escrow Analysis
Mesa Ridge Parkway & Spring Glen Drive Intersection
Filings 7, 8, 9, and Future Filings

Shown in TIA	Subdivisions Currently Proposed			Signal Escrow Amounts
Number of Lots	Subdivision Name	Number of Lots	Status	Portion of Total Escrow of $33,750
148	Filing 7	148	Platted	$8,875
101	Filing 8	101	Plat Approved - not recorded	$6,057
106	Filing 9	106	Pending	$6,189
223	Remaining Filings	223	Future	$12,629

Source: LSC Transportation Consultants, Inc. August 24, 2016

Table 5
Glen East Preliminary Plan County Intersection Signal Escrow Analysis
Peaceful Valley Road & Marksheffel Road Intersection
Filings 7, 8, 9, and Future Filings

Shown in TIS	Subdivisions Currently Proposed			Signal Escrow Amounts
Number of Lots	Subdivision Name	Number of Lots	Status	Portion of total Escrow of $36,250
148	Filing 7	148	Platted	Deferred to Fil 8
101	Filing 8	101	Plat Approved - not recorded	$15,615
106	Filing 9	106	Pending	$6,648
223	Remaining Filings	223	Future	$13,987

Note: The escrow amount for Filing 8 includes the deferred amount for Filing 7
Source: LSC Transportation Consultants, Inc. August 24, 2016

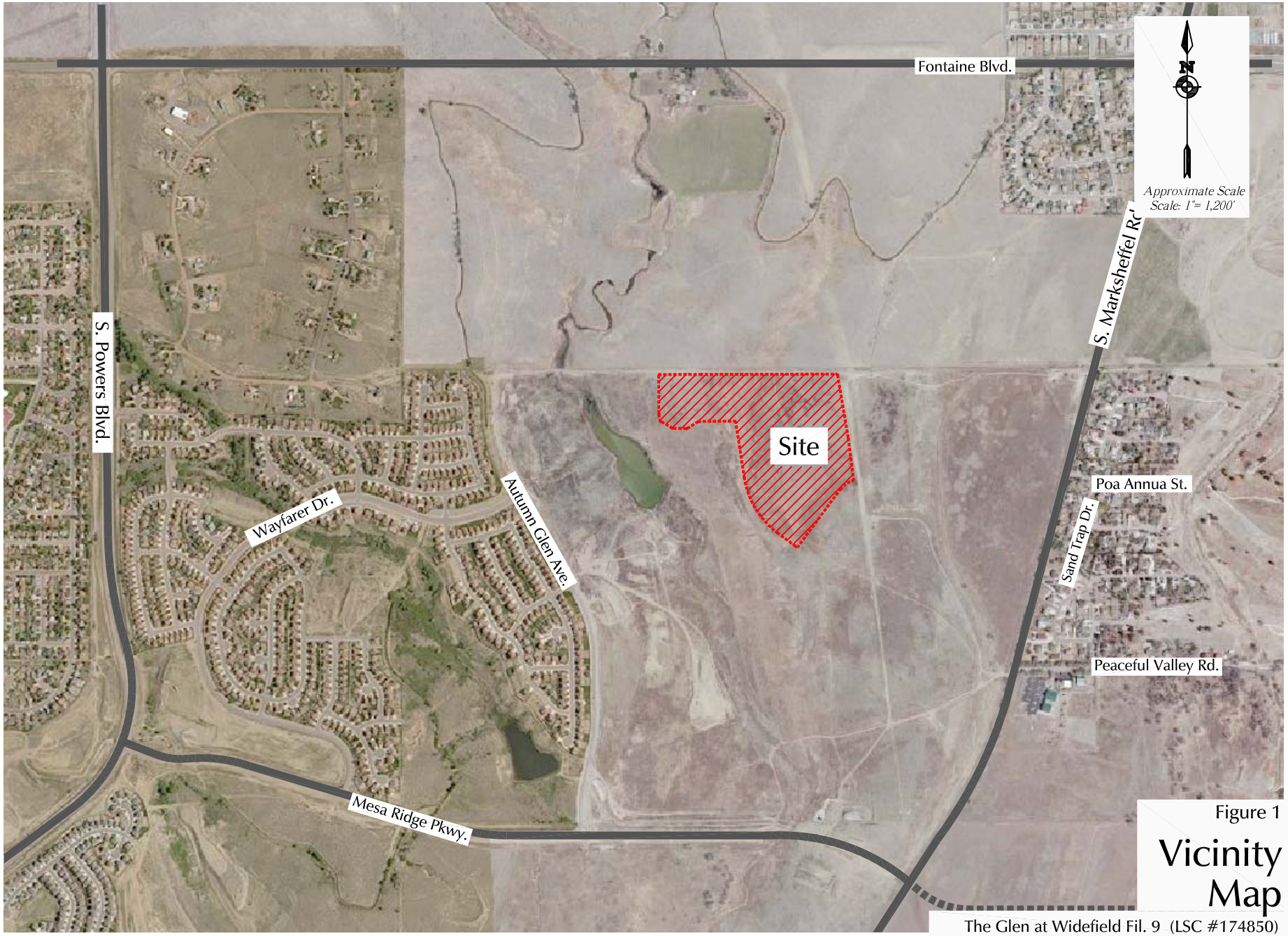


Figure 1

Vicinity Map

The Glen at Widefield Fil. 9 (LSC #174850)

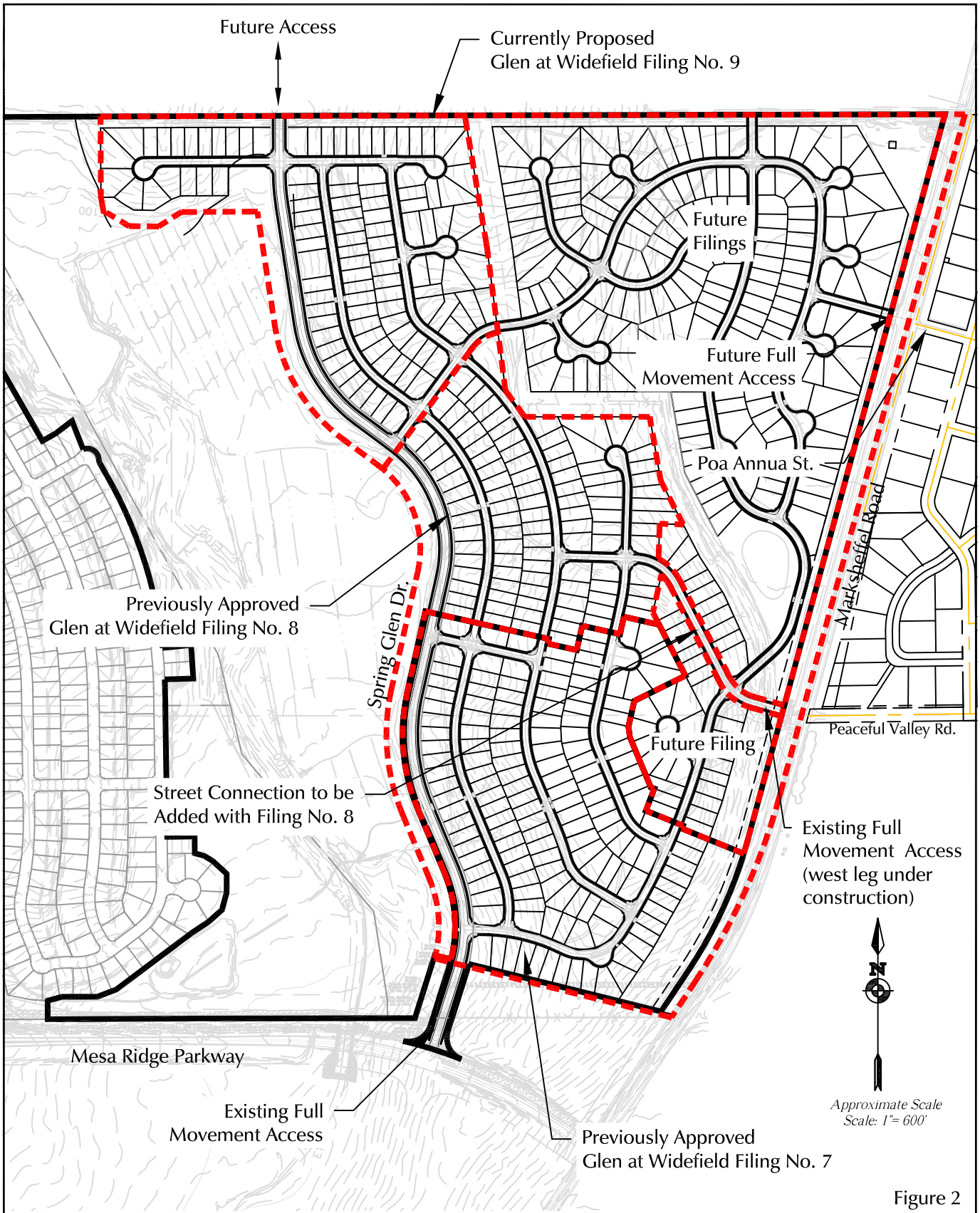
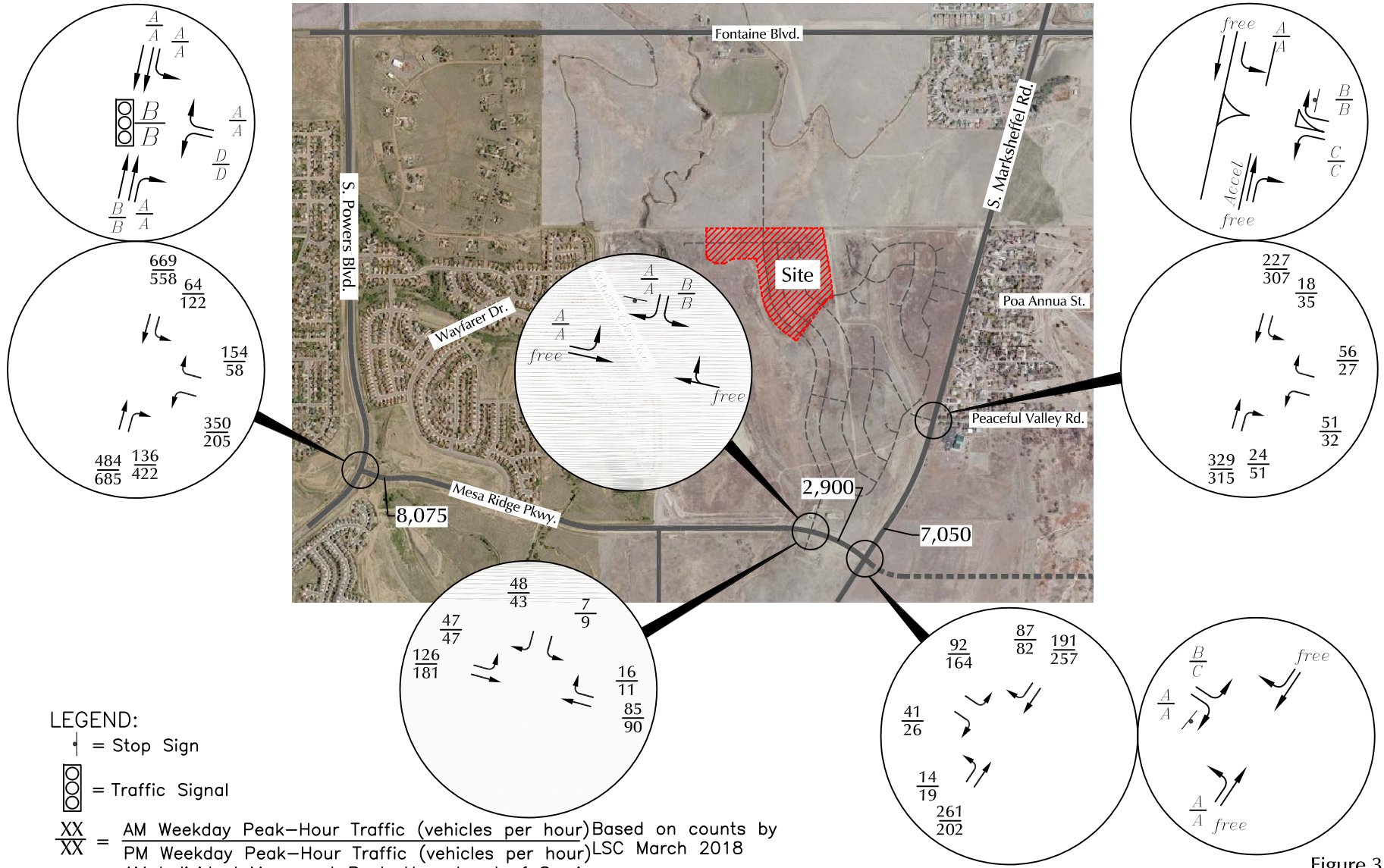


Figure 2

Site Plan

The Glen at Widefield Fil. 9 (LSC #174850)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$ Based on counts by LSC March 2018

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

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

X,XXX = Average Weekday Traffic (vehicles per day) Estimates by LSC

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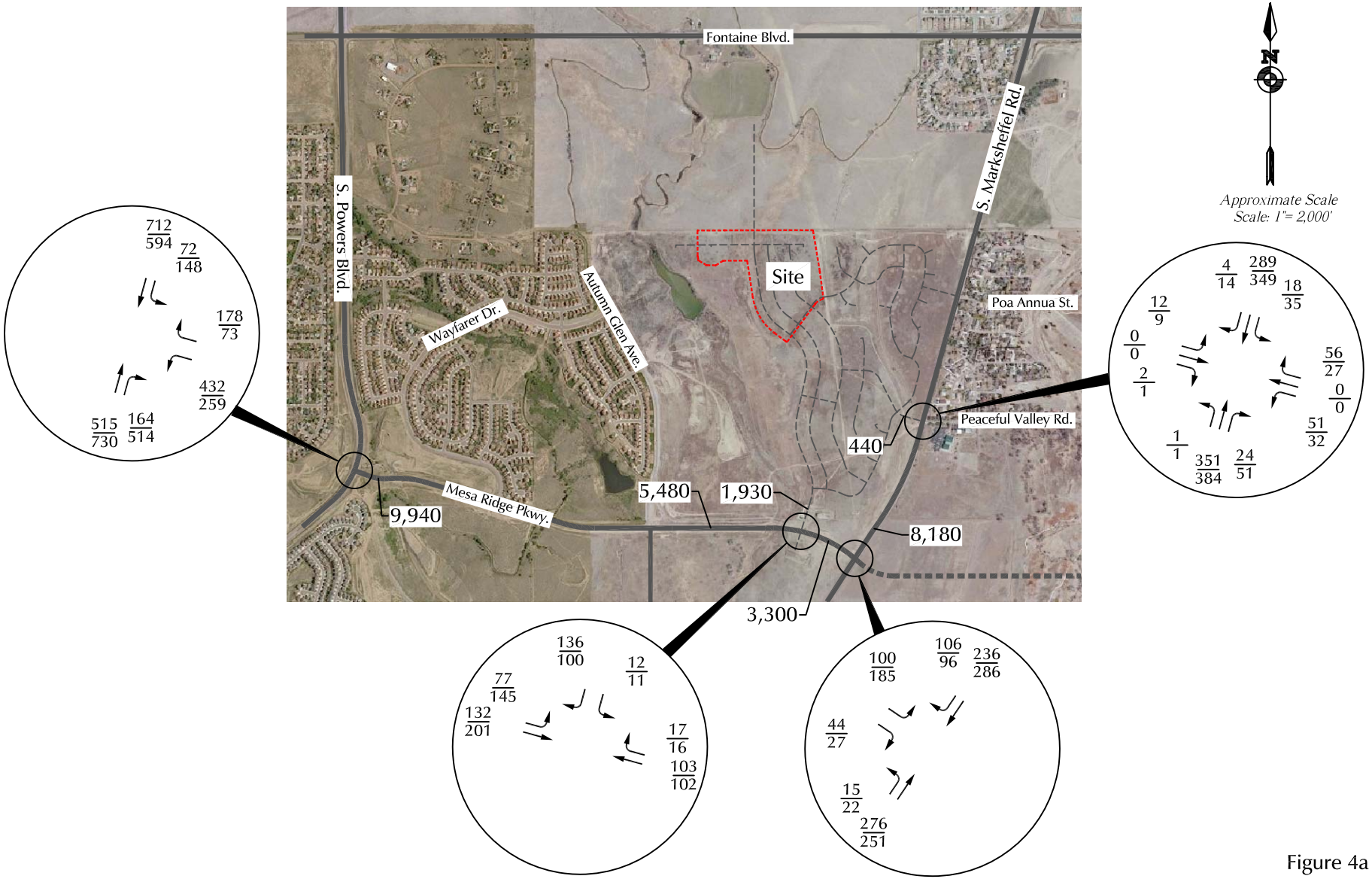
Figure 3

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

The Glen at Widefield Fil. 9 (LSC #174850)



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)

TRANSPORTATION CONSULTANTS, INC.

Figure 4a

Short-Term Background Traffic

The Glen at Widefield Fil. 9 (LSC #174850)

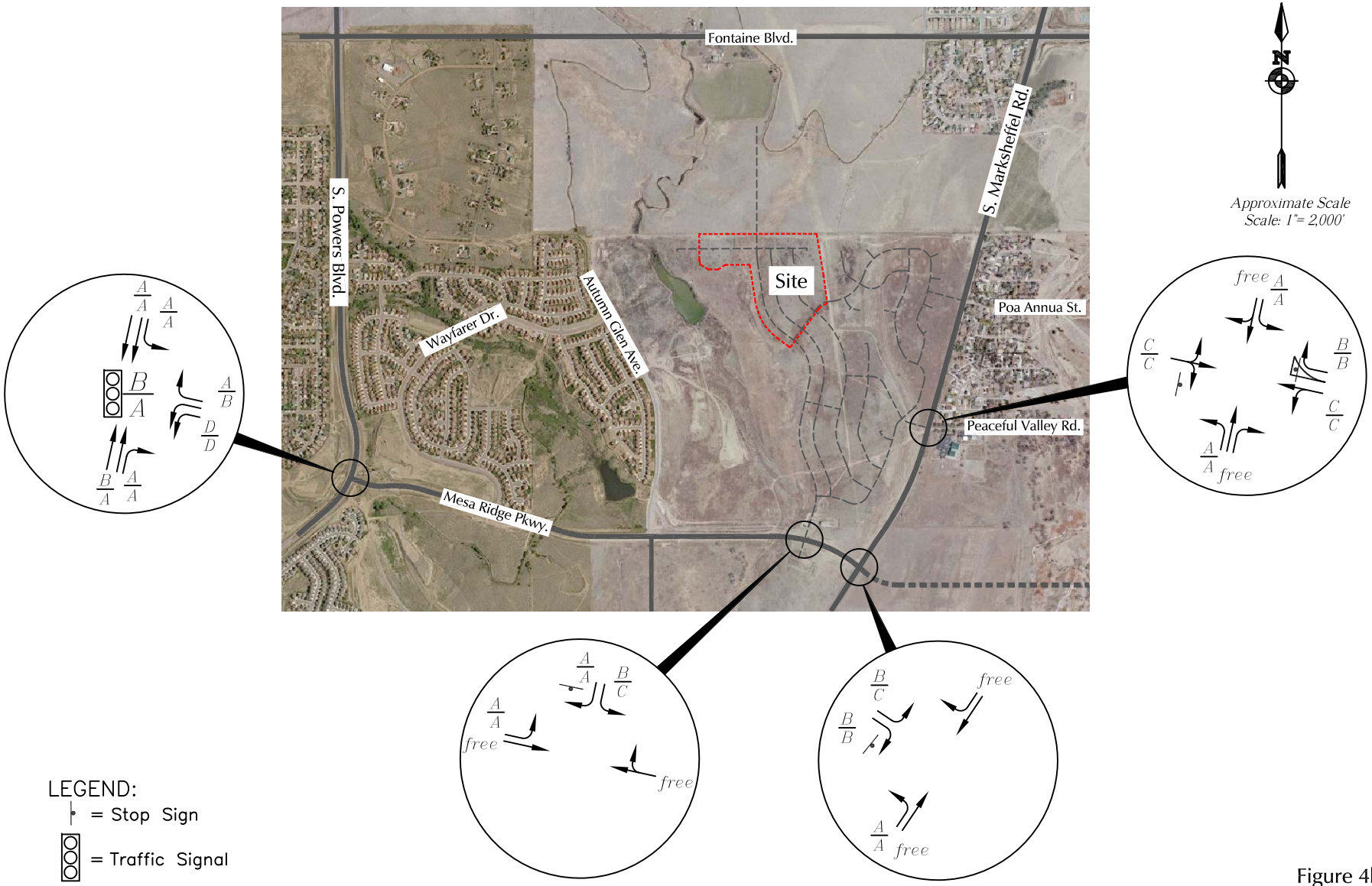
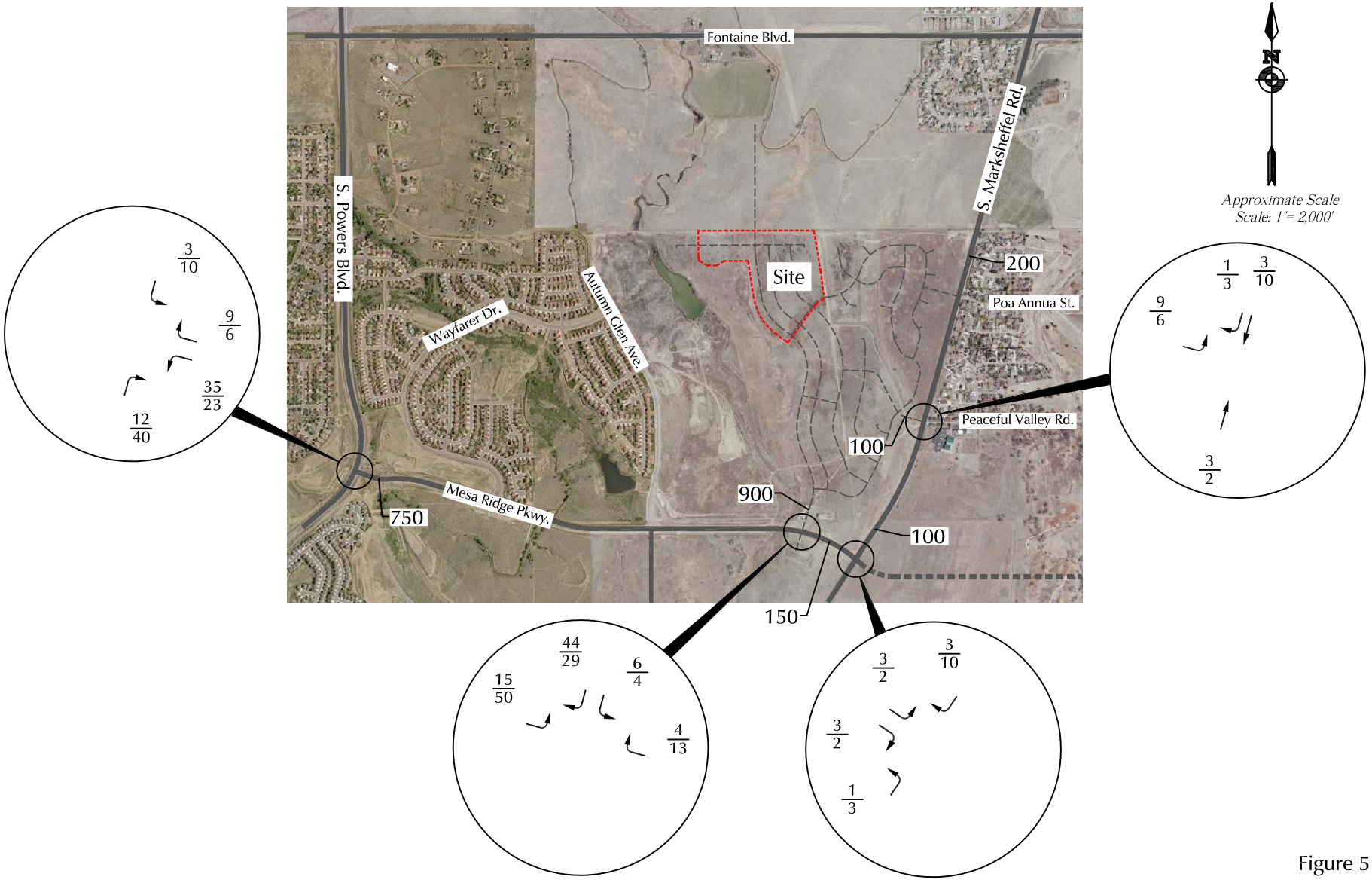


Figure 4b

Short-Term Background Lane Geometry, Traffic Control and Level of Service

The Glen at Widefield Fil. 9 (LSC #174850)



LEGEND:

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

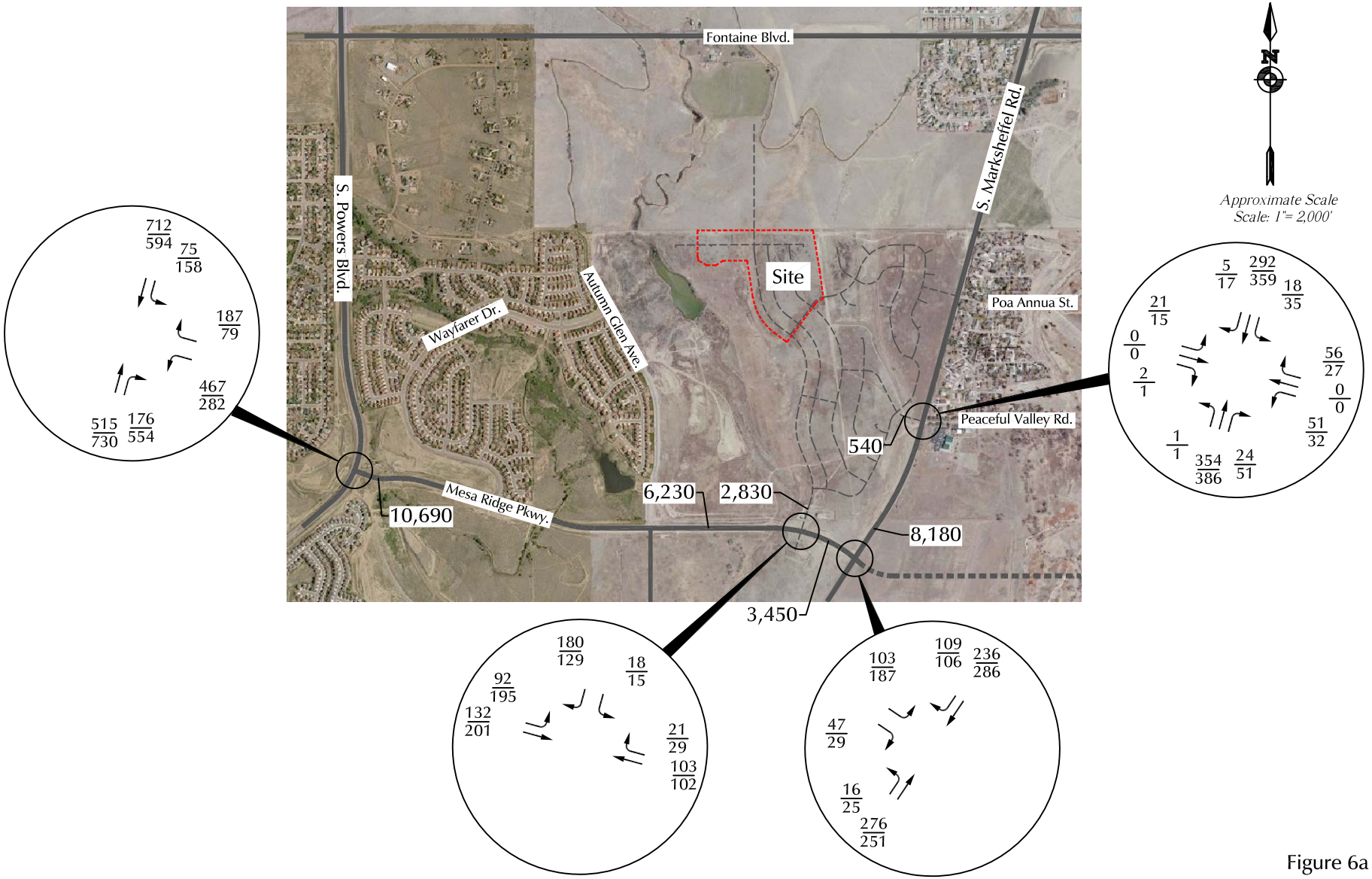
XXX = Average Weekday Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

Figure 5

Assignment of Site-Generated Traffic

The Glen at Widefield Fil. 9 (LSC #174850)



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)

TRANSPORTATION CONSULTANTS, INC.

Figure 6a

Short-Term Total Traffic

The Glen at Widefield Fil. 9 (LSC #174850)

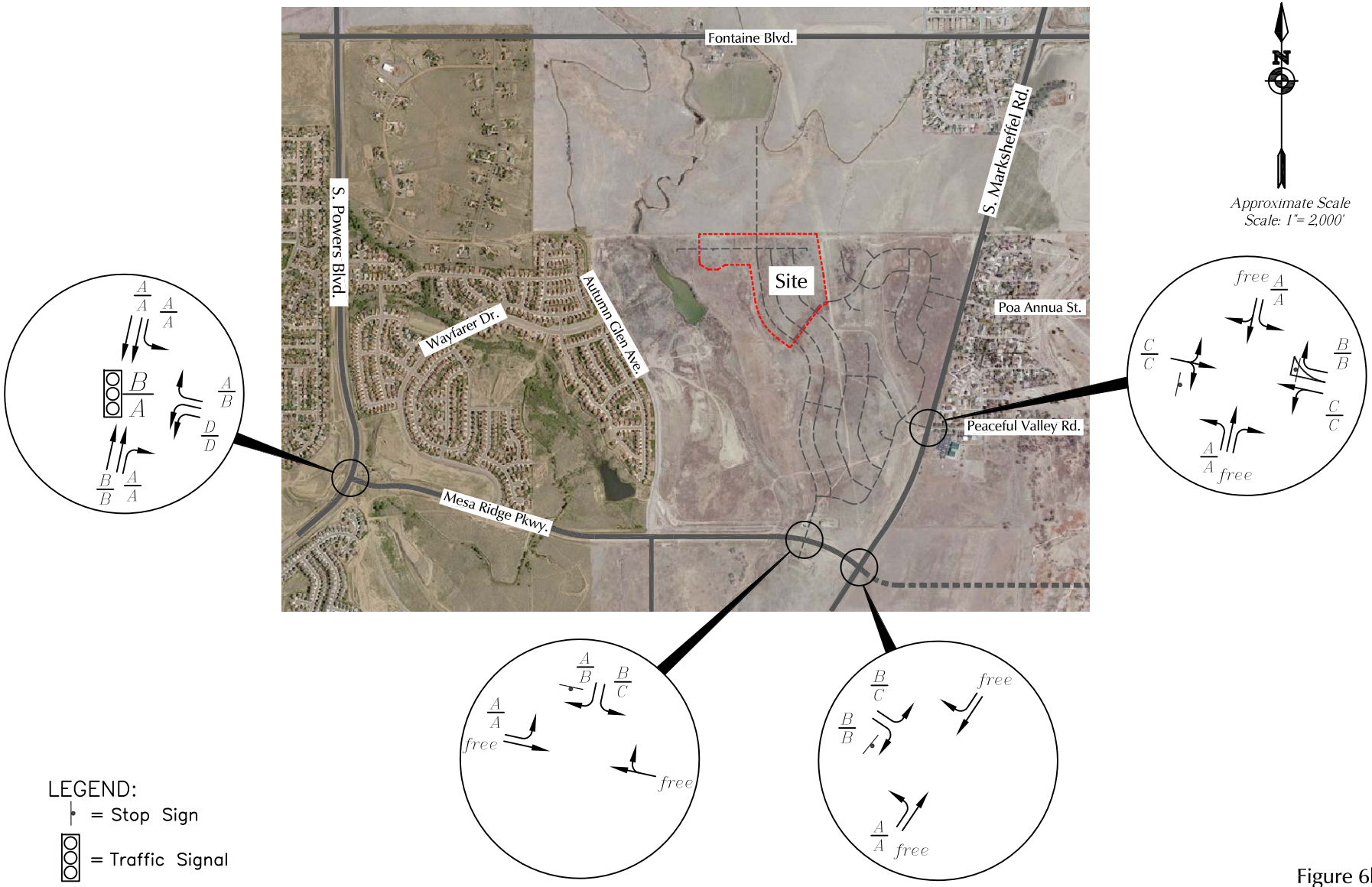


Figure 6b

Short-Term Total Lane Geometry, Traffic Control and Level of Service

The Glen at Widefield Fil. 9 (LSC #174850)

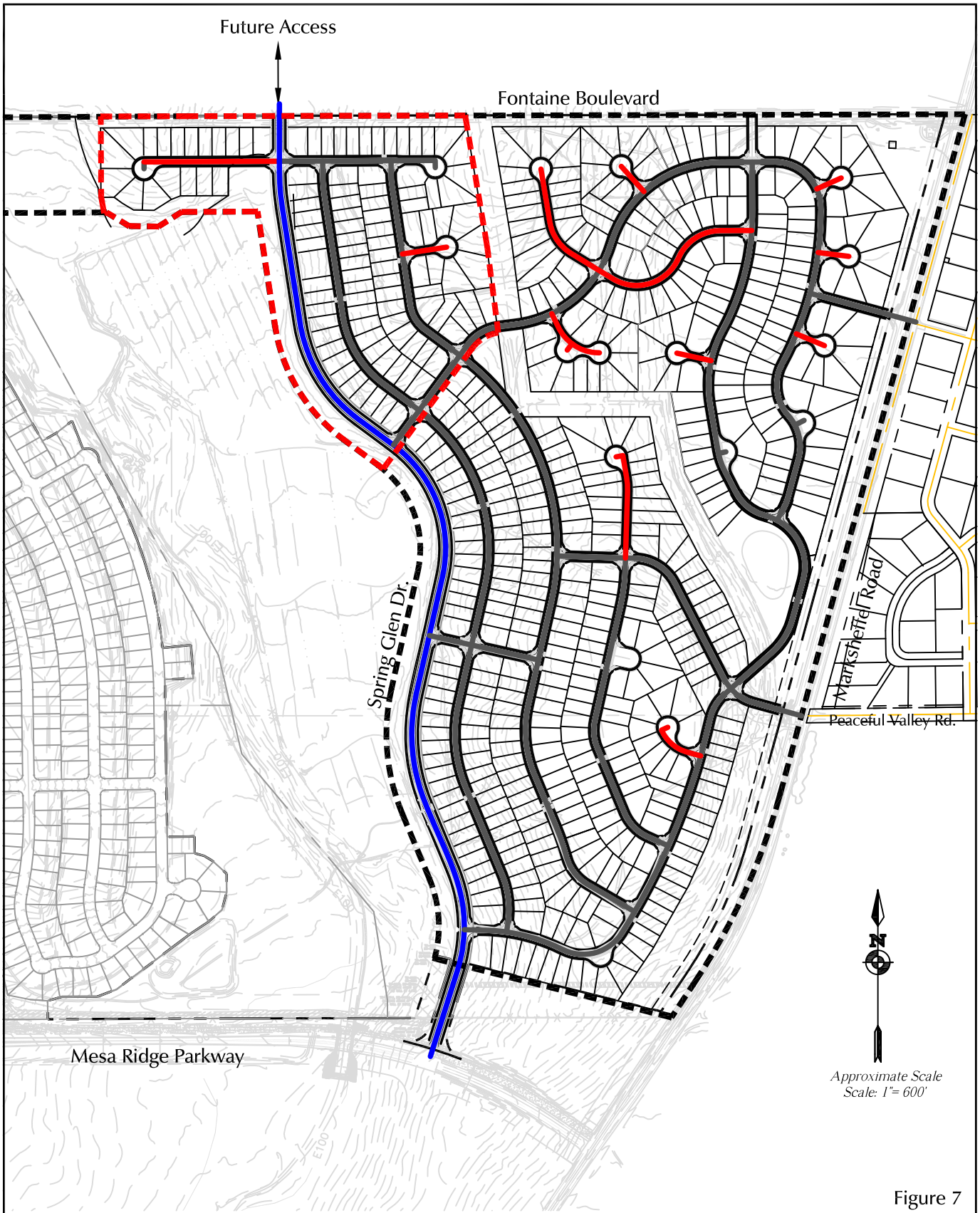


Figure 7

Recommended Street Classifications

The Glen at Widefield Fil. 9 (LSC #174850)

Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Mesa Ridge Pkwy AM
Site Code : 00174850
Start Date : 11/29/2017
Page No : 1

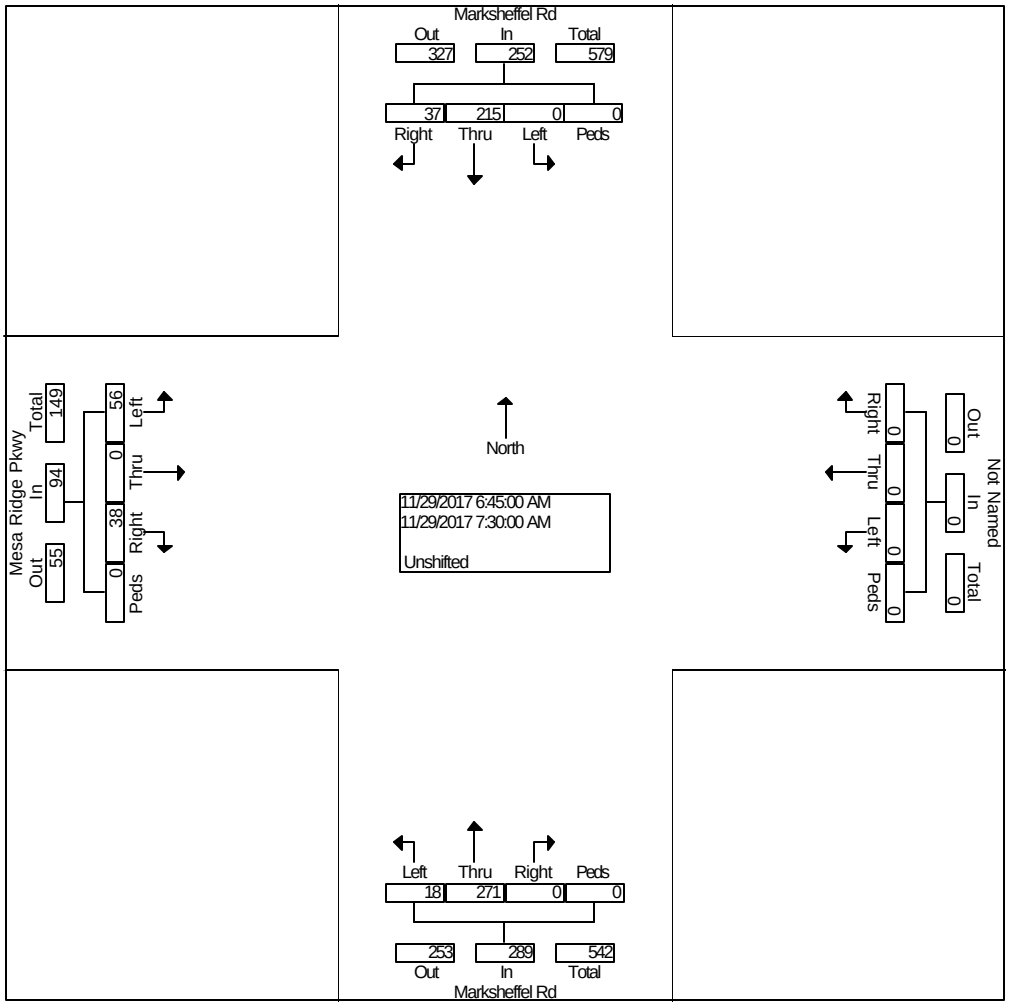
Groups Printed- Unshifted

	Marksheffel Rd From North				From East				Marksheffel Rd From South				Mesa Ridge Pkwy 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	13	39	0	0	0	0	0	0	0	59	3	0	7	0	16	0	137
06:45 AM	10	68	0	0	0	0	0	0	0	61	2	0	11	0	7	0	159
Total	23	107	0	0	0	0	0	0	0	120	5	0	18	0	23	0	296
07:00 AM	10	60	0	0	0	0	0	0	0	63	4	0	18	0	19	0	174
07:15 AM	11	51	0	0	0	0	0	0	0	67	3	0	3	0	14	0	149
07:30 AM	6	36	0	0	0	0	0	0	0	80	9	0	6	0	16	0	153
07:45 AM	10	41	0	0	0	0	0	0	0	69	3	0	8	0	12	0	143
Total	37	188	0	0	0	0	0	0	0	279	19	0	35	0	61	0	619
08:00 AM	17	38	0	0	0	0	0	0	0	32	6	0	2	0	16	0	111
08:15 AM	22	39	0	0	0	0	0	0	0	53	5	0	1	0	18	0	138
Grand Total	99	372	0	0	0	0	0	0	0	484	35	0	56	0	118	0	1164
Apprch %	21.0	79.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.3	6.7	0.0	32.2	0.0	67.8	0.0	
Total %	8.5	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.6	3.0	0.0	4.8	0.0	10.1	0.0	

Counts by LSC

File Name : Marksheffel Rd - Mesa Ridge Pkwy AM
Site Code : 00174850
Start Date : 11/29/2017
Page No : 2

	Marksheffel Rd From North					From East					Marksheffel Rd From South					Mesa Ridge Pkwy 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	06:45 AM																				
Volume	37	215	0	0	252	0	0	0	0	0	0	271	18	0	289	38	0	56	0	94	635
Percent	14.7	85.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	93.8	6.2	0.0		40.4	0.0	59.6	0.0		
07:00 Volume	10	60	0	0	70	0	0	0	0	0	0	63	4	0	67	18	0	19	0	37	174
Peak Factor																					0.912
High Int.	06:45 AM					6:15:00 AM					07:30 AM					07:00 AM					
Volume	10	68	0	0	78	0	0	0	0	0	0	80	9	0	89	18	0	19	0	37	
Peak Factor					0.808										0.812					0.635	



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Mesa Ridge Pkwy PM
Site Code : 00174850
Start Date : 11/28/2017
Page No : 1

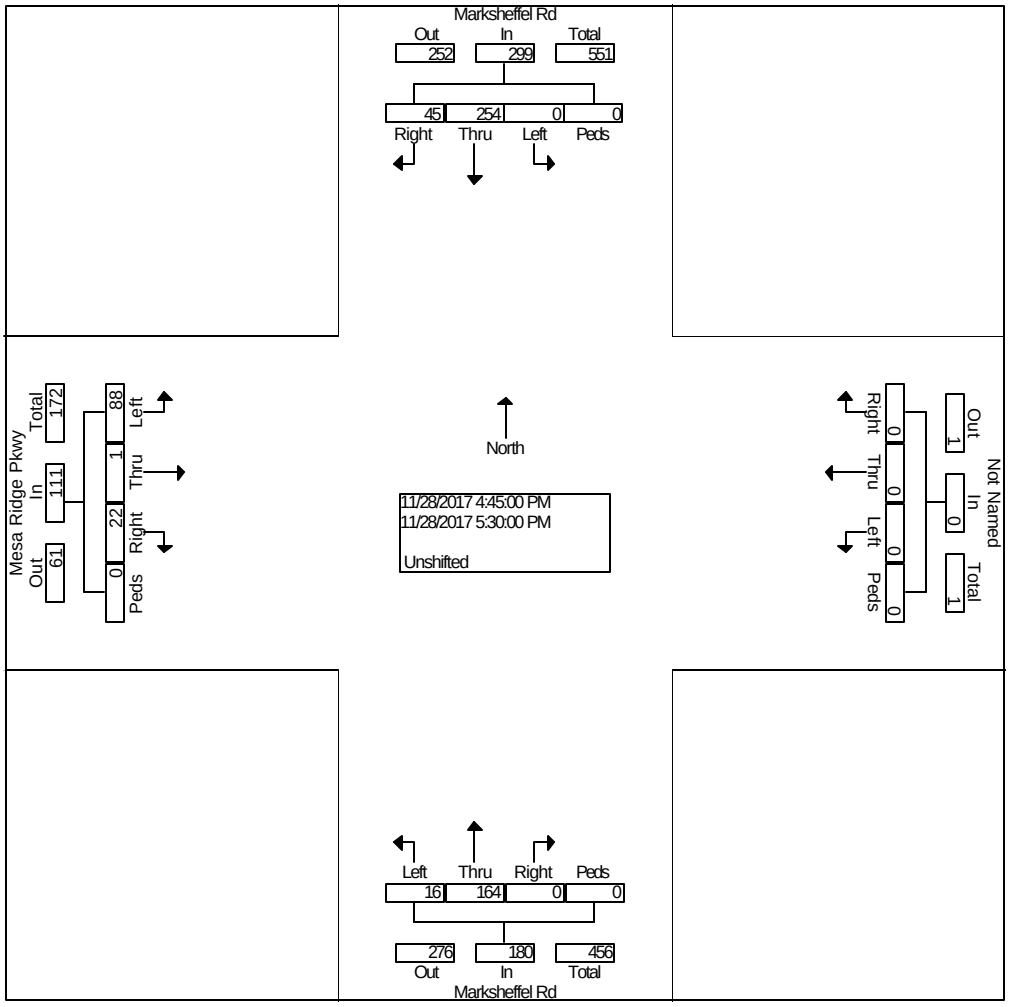
Groups Printed- Unshifted

	Marksheffel Rd From North				From East				Marksheffel Rd From South				Mesa Ridge Pkwy 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	15	51	0	0	0	0	0	0	0	38	3	0	7	0	26	0	140
04:15 PM	13	54	0	0	0	0	0	0	0	49	3	0	3	0	21	0	143
04:30 PM	10	44	0	0	0	0	0	0	0	39	5	0	1	0	25	0	124
04:45 PM	16	83	0	0	0	0	0	0	0	39	3	0	3	0	18	0	162
Total	54	232	0	0	0	0	0	0	0	165	14	0	14	0	90	0	569
05:00 PM	9	46	0	0	0	0	0	0	0	40	4	0	5	1	28	0	133
05:15 PM	13	68	0	0	0	0	0	0	0	42	4	0	7	0	14	0	148
05:30 PM	7	57	0	0	0	0	0	0	0	43	5	0	7	0	28	0	147
05:45 PM	5	36	0	0	0	0	0	0	0	30	6	0	17	0	22	0	116
Total	34	207	0	0	0	0	0	0	0	155	19	0	36	1	92	0	544
Grand Total	88	439	0	0	0	0	0	0	0	320	33	0	50	1	182	0	1113
Apprch %	16.7	83.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.7	9.3	0.0	21.5	0.4	78.1	0.0	
Total %	7.9	39.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.8	3.0	0.0	4.5	0.1	16.4	0.0	

Counts by LSC

File Name : Marksheffel Rd - Mesa Ridge Pkwy PM
Site Code : 00174850
Start Date : 11/28/2017
Page No : 2

	Marksheffel Rd From North					From East					Marksheffel Rd From South					Mesa Ridge Pkwy 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	04:45 PM																				
Volume	45	254	0	0	299	0	0	0	0	0	0	164	16	0	180	22	1	88	0	111	590
Percent	15.1	84.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	91.1	8.9	0.0		19.8	0.9	79.3	0.0		
04:45 Volume	16	83	0	0	99	0	0	0	0	0	0	39	3	0	42	3	0	18	0	21	162
Peak Factor																					0.910
High Int.	04:45 PM					3:45:00 PM					05:30 PM					05:30 PM					
Volume	16	83	0	0	99	0	0	0	0	0	0	43	5	0	48	7	0	28	0	35	
Peak Factor					0.755										0.938					0.793	



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Peaceful Valley Rd AM
Site Code : 00174850
Start Date : 12/07/2017
Page No : 1

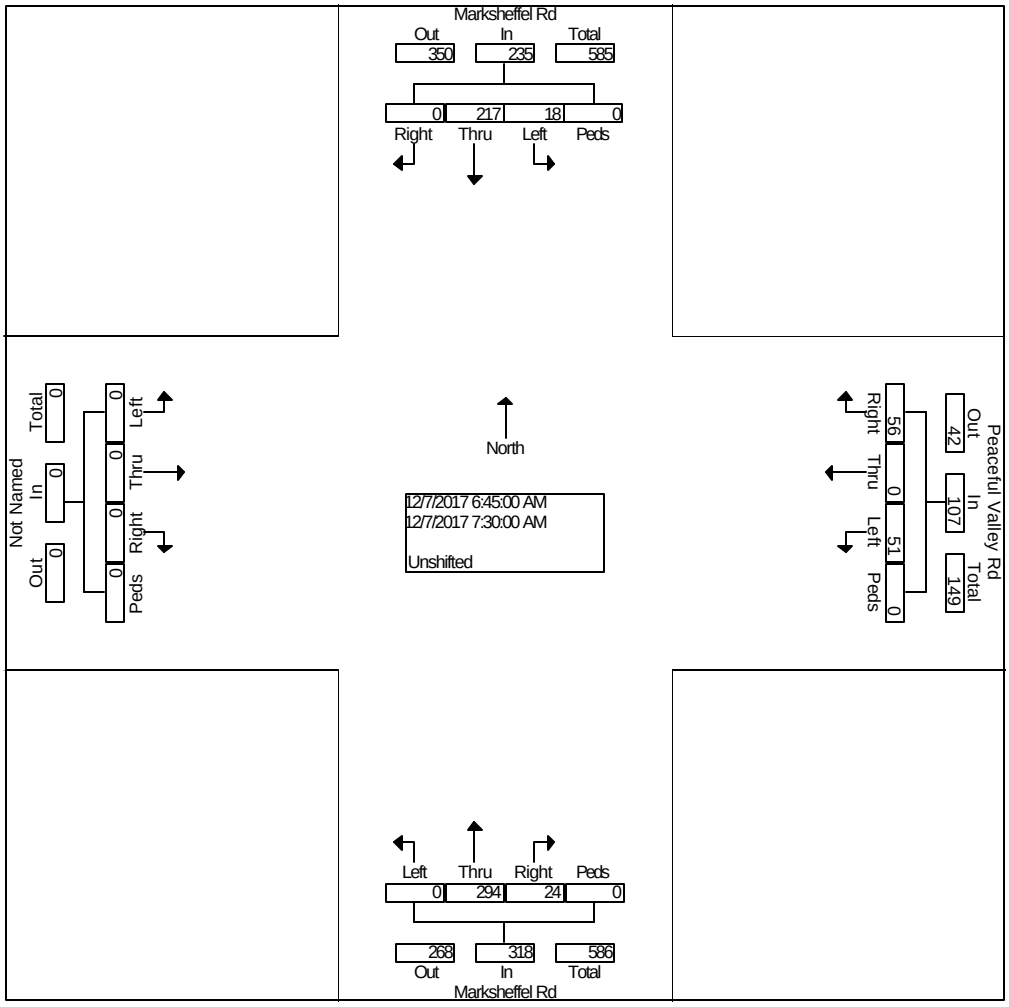
Groups Printed- Unshifted

	Marksheffel Rd From North				Peaceful Valley Rd From East				Marksheffel Rd From South				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	35	2	0	12	0	8	0	0	78	0	0	0	0	0	0	135
06:45 AM	0	51	1	0	11	0	11	0	5	71	0	0	0	0	0	0	150
Total	0	86	3	0	23	0	19	0	5	149	0	0	0	0	0	0	285
07:00 AM	0	64	8	0	21	0	22	0	4	88	0	0	0	0	0	0	207
07:15 AM	0	51	5	0	8	0	8	0	9	76	0	0	0	0	0	0	157
07:30 AM	0	51	4	0	16	0	10	0	6	59	0	0	0	0	0	0	146
07:45 AM	0	33	4	0	2	0	5	0	9	51	0	0	0	0	0	0	104
Total	0	199	21	0	47	0	45	0	28	274	0	0	0	0	0	0	614
08:00 AM	0	30	6	0	12	0	14	0	16	51	0	0	0	0	0	0	129
08:15 AM	0	32	20	0	10	0	19	0	13	31	0	0	0	0	0	0	125
Grand Total	0	347	50	0	92	0	97	0	62	505	0	0	0	0	0	0	1153
Apprch %	0.0	87.4	12.6	0.0	48.7	0.0	51.3	0.0	10.9	89.1	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	30.1	4.3	0.0	8.0	0.0	8.4	0.0	5.4	43.8	0.0	0.0	0.0	0.0	0.0	0.0	

Counts by LSC

File Name : Marksheffel Rd - Peaceful Valley Rd AM
Site Code : 00174850
Start Date : 12/07/2017
Page No : 2

	Marksheffel Rd From North					Peaceful Valley Rd From East					Marksheffel Rd From South					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	06:45 AM																				
Volume	0	217	18	0	235	56	0	51	0	107	24	294	0	0	318	0	0	0	0	0	660
Percent	0.0	92.3	7.7	0.0		52.3	0.0	47.7	0.0		7.5	92.5	0.0	0.0		0.0	0.0	0.0	0.0		
07:00 Volume	0	64	8	0	72	21	0	22	0	43	4	88	0	0	92	0	0	0	0	0	207
Peak Factor																					0.797
High Int.	07:00 AM					07:00 AM					07:00 AM					6:15:00 AM					
Volume	0	64	8	0	72	21	0	22	0	43	4	88	0	0	92						
Peak Factor					0.816					0.622					0.864						



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Peaceful Valley Rd PM
Site Code : 00174850
Start Date : 12/07/2017
Page No : 1

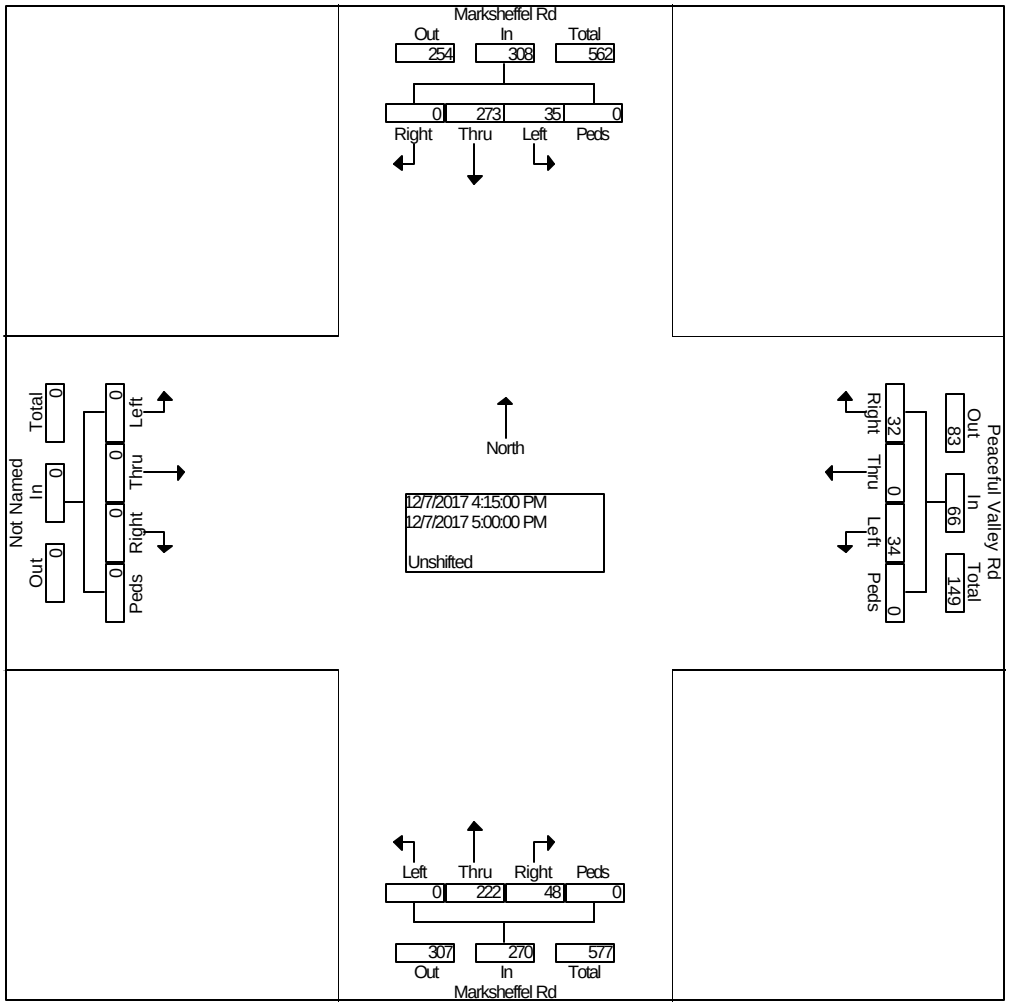
Groups Printed- Unshifted

	Marksheffel Rd From North				Peaceful Valley Rd From East				Marksheffel Rd From South				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	64	13	0	4	0	4	0	13	44	0	0	0	0	0	0	142
04:15 PM	0	74	10	0	6	0	10	0	13	59	0	0	0	0	0	0	172
04:30 PM	0	67	7	0	7	0	7	0	9	50	0	0	0	0	0	0	147
04:45 PM	0	77	10	0	9	0	9	0	13	44	0	0	0	0	0	0	162
Total	0	282	40	0	26	0	30	0	48	197	0	0	0	0	0	0	623
05:00 PM	0	55	8	0	10	0	8	0	13	69	0	0	0	0	0	0	163
05:15 PM	0	72	12	0	6	0	11	0	13	53	0	0	0	0	0	0	167
05:30 PM	0	57	5	0	2	0	4	0	12	42	0	0	0	0	0	0	122
05:45 PM	0	42	8	0	4	0	5	0	11	38	0	0	0	0	0	0	108
Total	0	226	33	0	22	0	28	0	49	202	0	0	0	0	0	0	560
Grand Total	0	508	73	0	48	0	58	0	97	399	0	0	0	0	0	0	1183
Apprch %	0.0	87.4	12.6	0.0	45.3	0.0	54.7	0.0	19.6	80.4	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	42.9	6.2	0.0	4.1	0.0	4.9	0.0	8.2	33.7	0.0	0.0	0.0	0.0	0.0	0.0	

Counts by LSC

File Name : Marksheffel Rd - Peaceful Valley Rd PM
Site Code : 00174850
Start Date : 12/07/2017
Page No : 2

	Marksheffel Rd From North					Peaceful Valley Rd From East					Marksheffel Rd From South					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	0	273	35	0	308	32	0	34	0	66	48	222	0	0	270	0	0	0	0	0	644
Percent	0.0	88.6	11.4	0.0		48.5	0.0	51.5	0.0		17.8	82.2	0.0	0.0		0.0	0.0	0.0	0.0		
04:15 Volume	0	74	10	0	84	6	0	10	0	16	13	59	0	0	72	0	0	0	0	0	172
Peak Factor																					0.936
High Int.	04:45 PM					04:45 PM					05:00 PM					3:45:00 PM					
Volume	0	77	10	0	87	9	0	9	0	18	13	69	0	0	82						
Peak Factor					0.885					0.917					0.823						



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Powers Blvd - Mesa Ridge AM
Site Code : 00174850
Start Date : 11/30/2017
Page No : 1

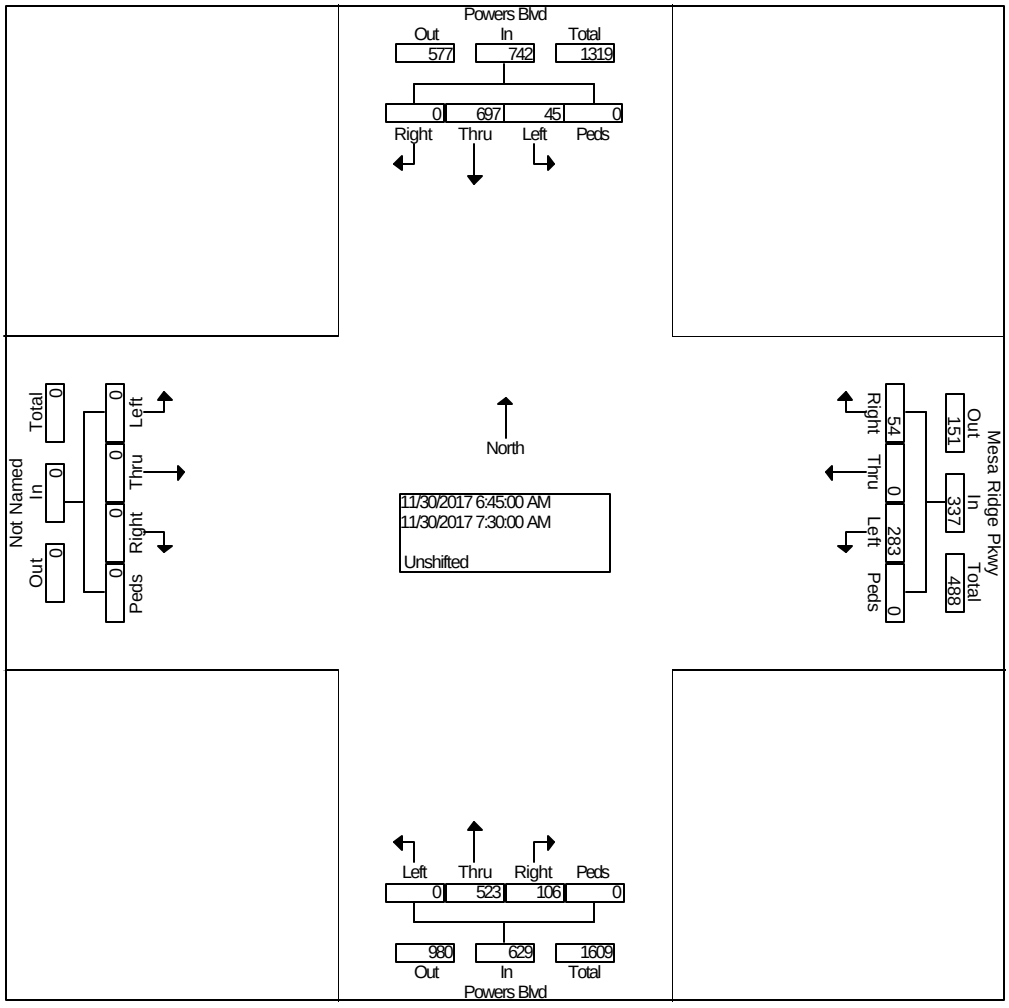
Groups Printed- Unshifted

	Powers Blvd From North				Mesa Ridge Pkwy From East				Powers Blvd From South				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	152	9	0	11	0	65	0	19	100	0	0	0	0	0	0	356
06:45 AM	0	232	12	0	13	0	81	0	20	111	0	0	0	0	0	0	469
Total	0	384	21	0	24	0	146	0	39	211	0	0	0	0	0	0	825
07:00 AM	0	186	9	0	10	0	71	0	24	146	0	0	0	0	0	0	446
07:15 AM	0	128	11	0	18	0	67	0	36	136	0	0	0	0	0	0	396
07:30 AM	0	151	13	0	13	0	64	0	26	130	0	0	0	0	0	0	397
07:45 AM	0	140	11	0	4	0	57	0	38	126	0	0	0	0	0	0	376
Total	0	605	44	0	45	0	259	0	124	538	0	0	0	0	0	0	1615
08:00 AM	0	127	8	0	15	0	40	0	45	122	0	0	0	0	0	0	357
08:15 AM	0	166	17	0	19	0	72	0	26	105	0	0	0	0	0	0	405
Grand Total	0	1282	90	0	103	0	517	0	234	976	0	0	0	0	0	0	3202
Apprch %	0.0	93.4	6.6	0.0	16.6	0.0	83.4	0.0	19.3	80.7	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	40.0	2.8	0.0	3.2	0.0	16.1	0.0	7.3	30.5	0.0	0.0	0.0	0.0	0.0	0.0	

Counts by LSC

File Name : Powers Blvd - Mesa Ridge AM
Site Code : 00174850
Start Date : 11/30/2017

	Powers Blvd From North					Mesa Ridge Pkwy From East					Powers Blvd From South					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	06:45 AM																				
Volume	0	697	45	0	742	54	0	283	0	337	106	523	0	0	629	0	0	0	0	0	1708
Percent	0.0	93.9	6.1	0.0		16.0	0.0	84.0	0.0		16.9	83.1	0.0	0.0		0.0	0.0	0.0	0.0		
06:45 Volume	0	232	12	0	244	13	0	81	0	94	20	111	0	0	131	0	0	0	0	0	469
Peak Factor																					0.910
High Int.	06:45 AM					06:45 AM					07:15 AM					6:15:00 AM					
Volume	0	232	12	0	244	13	0	81	0	94	36	136	0	0	172						
Peak Factor					0.760					0.896					0.914						



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Powers Blvd - Mesa Ridge PM
Site Code : 00174850
Start Date : 11/30/2017
Page No : 1

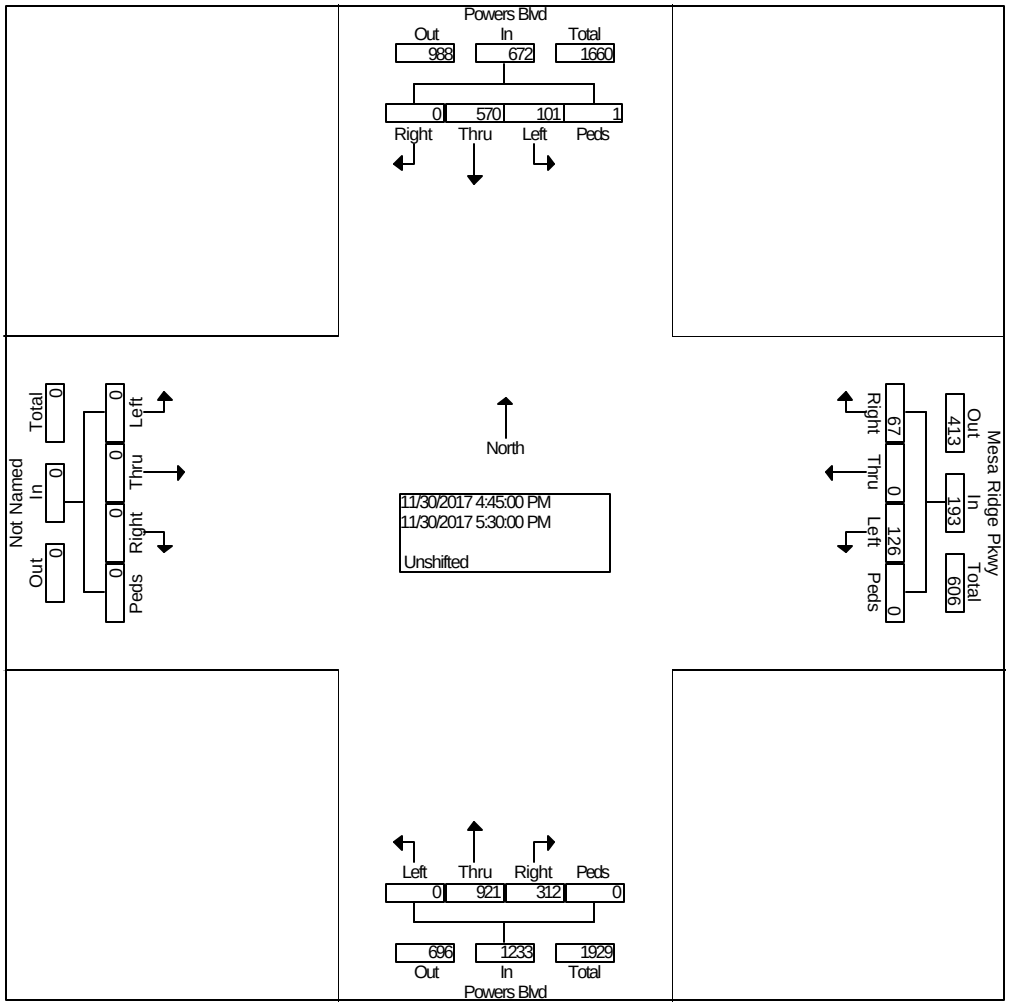
Groups Printed- Unshifted

	Powers Blvd From North				Mesa Ridge Pkwy From East				Powers Blvd From South				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	136	30	0	7	0	33	0	59	192	0	0	0	0	0	0	457
04:15 PM	0	151	23	0	10	0	32	0	67	208	0	0	0	0	0	0	491
04:30 PM	0	139	27	0	13	0	33	0	79	201	0	0	0	0	0	0	492
04:45 PM	0	153	24	0	16	0	30	0	85	243	0	0	0	0	0	0	551
Total	0	579	104	0	46	0	128	0	290	844	0	0	0	0	0	0	1991
05:00 PM	0	125	22	1	21	0	23	0	77	229	0	0	0	0	0	0	498
05:15 PM	0	154	31	0	17	0	37	0	81	209	0	0	0	0	0	0	529
05:30 PM	0	138	24	0	13	0	36	0	69	240	0	0	0	0	0	0	520
05:45 PM	0	113	30	0	9	0	36	0	96	207	0	0	0	0	0	0	491
Total	0	530	107	1	60	0	132	0	323	885	0	0	0	0	0	0	2038
Grand Total	0	1109	211	1	106	0	260	0	613	1729	0	0	0	0	0	0	4029
Apprch %	0.0	84.0	16.0	0.1	29.0	0.0	71.0	0.0	26.2	73.8	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	27.5	5.2	0.0	2.6	0.0	6.5	0.0	15.2	42.9	0.0	0.0	0.0	0.0	0.0	0.0	

Counts by LSC

File Name : Powers Blvd - Mesa Ridge PM
Site Code : 00174850
Start Date : 11/30/2017
Page No : 2

	Powers Blvd From North					Mesa Ridge Pkwy From East					Powers Blvd From South					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	04:45 PM																				
Volume	0	570	101	1	672	67	0	126	0	193	312	921	0	0	1233	0	0	0	0	0	2098
Percent	0.0	84.8	15.0	0.1		34.7	0.0	65.3	0.0		25.3	74.7	0.0	0.0		0.0	0.0	0.0	0.0		
04:45 Volume	0	153	24	0	177	16	0	30	0	46	85	243	0	0	328	0	0	0	0	0	551
Peak Factor																					0.952
High Int.	05:15 PM					05:15 PM					04:45 PM					3:45:00 PM					
Volume	0	154	31	0	185	17	0	37	0	54	85	243	0	0	328						
Peak Factor					0.908					0.894					0.940						



Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	56	329	24	18	227
Future Vol, veh/h	51	56	329	24	18	227
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	290	340	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	62	62	86	86	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	90	383	28	22	277

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	704	383	0	0	411	0
Stage 1	383	-	-	-	-	-
Stage 2	321	-	-	-	-	-
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	403	664	-	-	1148	-
Stage 1	689	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	395	664	-	-	1148	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	735	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	395	664	1148	-
HCM Lane V/C Ratio	-	-	0.208	0.136	0.019	-
HCM Control Delay (s)	-	-	16.5	11.3	8.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.5	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	92	41	14	261	191	87
Future Vol, veh/h	92	41	14	261	191	87
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	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	94	94	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	102	46	15	278	239	109

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	547	239	348	0	-	0
Stage 1	239	-	-	-	-	-
Stage 2	308	-	-	-	-	-
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	498	800	1211	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	492	800	1211	-	-	-
Mov Cap-2 Maneuver	492	-	-	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1211	-	492	800	-	-
HCM Lane V/C Ratio	0.012	-	0.208	0.057	-	-
HCM Control Delay (s)	8	-	14.2	9.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.8	0.2	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	126	85	16	7	48
Future Vol, veh/h	47	126	85	16	7	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	100	100	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	152	85	16	7	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	101	0	-	0	359	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	266	-
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	1491	-	-	-	640	964
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1491	-	-	-	616	964
Mov Cap-2 Maneuver	-	-	-	-	616	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	779	-

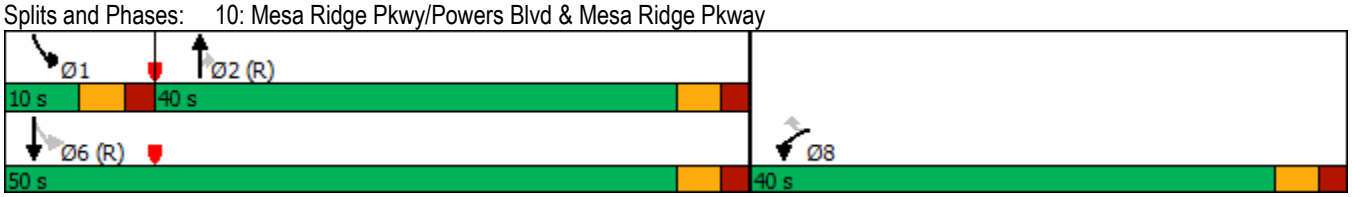
Approach	EB	WB	SB
HCM Control Delay, s	2	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1491	-	-	-	616	964
HCM Lane V/C Ratio	0.038	-	-	-	0.012	0.051
HCM Control Delay (s)	7.5	-	-	-	10.9	8.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	350	154	484	136	64	669
Future Volume (vph)	350	154	484	136	64	669
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	40.0	40.0	40.0	40.0	10.0	50.0
Total Split (%)	44.4%	44.4%	44.4%	44.4%	11.1%	55.6%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	24.2	24.2	46.1	46.1	55.8	55.8
Actuated g/C Ratio	0.27	0.27	0.51	0.51	0.62	0.62
v/c Ratio	0.77	0.30	0.28	0.16	0.13	0.34
Control Delay	40.8	5.1	15.1	3.6	9.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	5.1	15.1	3.6	9.1	9.6
LOS	D	A	B	A	A	A
Approach Delay	30.0		12.6			9.6
Approach LOS	C		B			A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 48.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	27	315	51	35	307
Future Vol, veh/h	32	27	315	51	35	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	290	340	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	98	98	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	31	321	52	40	349

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	750	321	0	0	373	0
Stage 1	321	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	379	720	-	-	1185	-
Stage 1	735	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	366	720	-	-	1185	-
Mov Cap-2 Maneuver	366	-	-	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	366	720	1185	-
HCM Lane V/C Ratio	-	-	0.1	0.043	0.034	-
HCM Control Delay (s)	-	-	15.9	10.2	8.1	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	164	26	19	202	257	82
Future Vol, veh/h	164	26	19	202	257	82
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	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	89	89	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	164	26	21	227	282	90

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	551	282	372	0	-	0
Stage 1	282	-	-	-	-	-
Stage 2	269	-	-	-	-	-
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	495	757	1186	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	486	757	1186	-	-	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1186	-	486	757	-	-
HCM Lane V/C Ratio	0.018	-	0.337	0.034	-	-
HCM Control Delay (s)	8.1	-	16.1	9.9	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	1.5	0.1	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	181	90	11	9	43
Future Vol, veh/h	47	181	90	11	9	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	72	72	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	181	125	15	10	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	140	0	-	0	408	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	275	-
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	1443	-	-	-	599	916
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1443	-	-	-	579	916
Mov Cap-2 Maneuver	-	-	-	-	579	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	771	-

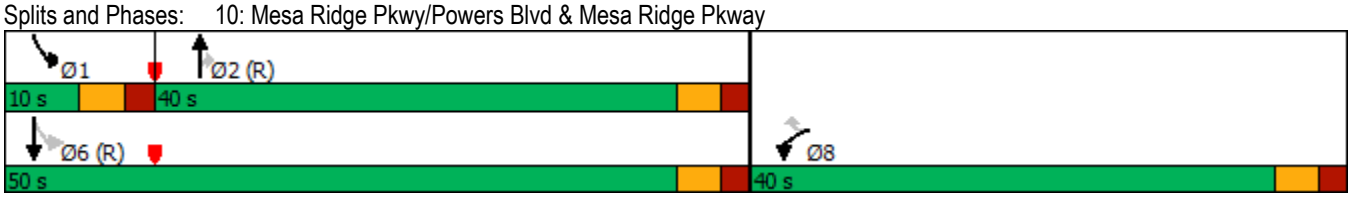
Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1443	-	-	-	579	916
HCM Lane V/C Ratio	0.033	-	-	-	0.017	0.05
HCM Control Delay (s)	7.6	-	-	-	11.3	9.1
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	205	58	685	422	122	558
Future Volume (vph)	205	58	685	422	122	558
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	40.0	40.0	40.0	40.0	10.0	50.0
Total Split (%)	44.4%	44.4%	44.4%	44.4%	11.1%	55.6%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	15.9	15.9	51.3	51.3	64.1	64.1
Actuated g/C Ratio	0.18	0.18	0.57	0.57	0.71	0.71
v/c Ratio	0.66	0.18	0.35	0.40	0.26	0.25
Control Delay	44.0	9.3	12.0	2.5	6.1	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	9.3	12.0	2.5	6.1	5.3
LOS	D	A	B	A	A	A
Approach Delay	36.4		8.4			5.5
Approach LOS	D		A			A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 49.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	0	2	51	0	56	1	351	24	18	289	4
Future Vol, veh/h	12	0	2	51	0	56	1	351	24	18	289	4
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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	62	62	62	86	86	86	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	2	82	0	90	1	408	28	22	352	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	823	837	355	810	811	408	357	0	0	436	0	0
Stage 1	399	399	-	410	410	-	-	-	-	-	-	-
Stage 2	424	438	-	400	401	-	-	-	-	-	-	-
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	292	303	689	298	313	643	1202	-	-	1124	-	-
Stage 1	627	602	-	619	595	-	-	-	-	-	-	-
Stage 2	608	579	-	626	601	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	247	297	689	292	306	643	1202	-	-	1124	-	-
Mov Cap-2 Maneuver	247	297	-	292	306	-	-	-	-	-	-	-
Stage 1	626	590	-	618	594	-	-	-	-	-	-	-
Stage 2	522	578	-	612	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	16.6	0	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1202	-	-	272	292	643	1124	-	-
HCM Lane V/C Ratio	0.001	-	-	0.056	0.282	0.14	0.02	-	-
HCM Control Delay (s)	8	-	-	19	22.1	11.5	8.3	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.1	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	100	44	15	276	236	106
Future Vol, veh/h	100	44	15	276	236	106
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	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	94	94	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	111	49	16	294	295	133

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	621	295	428	0	-	0
Stage 1	295	-	-	-	-	-
Stage 2	326	-	-	-	-	-
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	451	744	1131	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	445	744	1131	-	-	-
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1131	-	536	744	-	-
HCM Lane V/C Ratio	0.014	-	0.207	0.066	-	-
HCM Control Delay (s)	8.2	-	13.5	10.2	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	0.2	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	132	103	17	12	136
Future Vol, veh/h	77	132	103	17	12	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	83	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	159	112	18	13	148

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	130	0	-	0	448	121
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	327	-
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	1455	-	-	-	568	930
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1455	-	-	-	535	930
Mov Cap-2 Maneuver	-	-	-	-	535	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	731	-

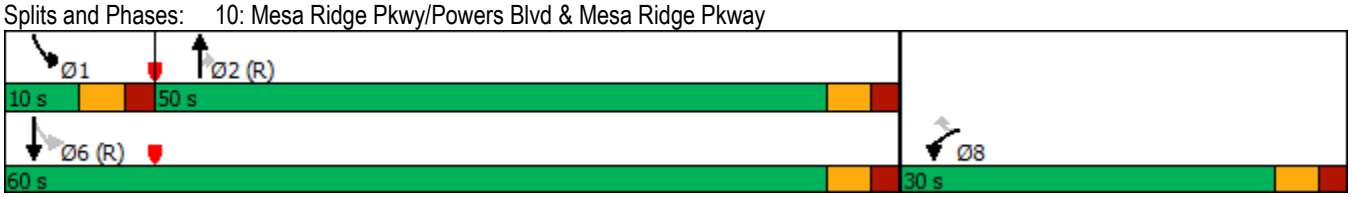
Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1455	-	-	-	535	930
HCM Lane V/C Ratio	0.058	-	-	-	0.024	0.159
HCM Control Delay (s)	7.6	-	-	-	11.9	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	432	178	515	164	72	712
Future Volume (vph)	432	178	515	164	72	712
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	17.2	17.2	53.2	53.2	62.8	62.8
Actuated g/C Ratio	0.19	0.19	0.59	0.59	0.70	0.70
v/c Ratio	0.69	0.41	0.26	0.17	0.14	0.32
Control Delay	39.3	7.4	10.6	2.4	5.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	7.4	10.6	2.4	5.6	6.1
LOS	D	A	B	A	A	A
Approach Delay	30.0		8.6			6.0
Approach LOS	C		A			A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 13.7	Intersection LOS: B
Intersection Capacity Utilization 43.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



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	12	0	1	32	0	27	1	384	51	35	349	14
Future Vol, veh/h	12	0	1	32	0	27	1	384	51	35	349	14
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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	87	87	87	92	89	89	91	91	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	1	37	0	31	1	431	57	38	384	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	930	958	392	901	908	431	399	0	0	488	0	0
Stage 1	468	468	-	433	433	-	-	-	-	-	-	-
Stage 2	462	490	-	468	475	-	-	-	-	-	-	-
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	248	257	657	259	275	624	1160	-	-	1075	-	-
Stage 1	575	561	-	601	582	-	-	-	-	-	-	-
Stage 2	580	549	-	575	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	229	248	657	251	265	624	1160	-	-	1075	-	-
Mov Cap-2 Maneuver	229	248	-	251	265	-	-	-	-	-	-	-
Stage 1	574	541	-	600	581	-	-	-	-	-	-	-
Stage 2	551	548	-	554	538	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.9	16.9	0	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1160	-	-	241	251	624	1075	-	-
HCM Lane V/C Ratio	0.001	-	-	0.059	0.147	0.05	0.036	-	-
HCM Control Delay (s)	8.1	-	-	20.9	21.8	11.1	8.5	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.5	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	185	27	22	251	286	96
Future Vol, veh/h	185	27	22	251	286	96
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	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	89	89	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	201	29	25	282	314	105

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	646	314	419	0	-	0
Stage 1	314	-	-	-	-	-
Stage 2	332	-	-	-	-	-
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	436	726	1140	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	426	726	1140	-	-	-
Mov Cap-2 Maneuver	520	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	727	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1140	-	520	726	-	-
HCM Lane V/C Ratio	0.022	-	0.387	0.04	-	-
HCM Control Delay (s)	8.2	-	16.2	10.2	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.8	0.1	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	145	201	102	16	11	100
Future Vol, veh/h	145	201	102	16	11	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	72	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	158	218	142	17	12	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	159	0	-	0	685	151
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	534	-
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	1420	-	-	-	414	895
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1420	-	-	-	368	895
Mov Cap-2 Maneuver	-	-	-	-	368	-
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1420	-	-	-	368	895
HCM Lane V/C Ratio	0.111	-	-	-	0.032	0.121
HCM Control Delay (s)	7.9	-	-	-	15.1	9.6
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.1	0.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	259	73	730	514	148	594
Future Volume (vph)	259	73	730	514	148	594
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	12.1	12.1	55.0	55.0	67.9	67.9
Actuated g/C Ratio	0.13	0.13	0.61	0.61	0.75	0.75
v/c Ratio	0.56	0.26	0.35	0.45	0.31	0.25
Control Delay	40.9	11.0	9.8	2.3	4.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	11.0	9.8	2.3	4.9	3.8
LOS	D	B	A	A	A	A
Approach Delay	34.3		6.7			4.0
Approach LOS	C		A			A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 48.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Powers Blvd & Mesa Ridge Pkway

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	2	51	0	56	1	354	24	18	292	5
Future Vol, veh/h	21	0	2	51	0	56	1	354	24	18	292	5
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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	62	62	62	86	86	86	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	0	2	82	0	90	1	412	28	22	356	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	831	845	359	818	820	412	362	0	0	440	0	0
Stage 1	403	403	-	414	414	-	-	-	-	-	-	-
Stage 2	428	442	-	404	406	-	-	-	-	-	-	-
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	289	300	685	295	310	640	1197	-	-	1120	-	-
Stage 1	624	600	-	616	593	-	-	-	-	-	-	-
Stage 2	605	576	-	623	598	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	244	294	685	289	303	640	1197	-	-	1120	-	-
Mov Cap-2 Maneuver	244	294	-	289	303	-	-	-	-	-	-	-
Stage 1	623	588	-	615	592	-	-	-	-	-	-	-
Stage 2	519	575	-	609	586	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.4	16.6	0	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1197	-	-	258	289	640	1120	-	-
HCM Lane V/C Ratio	0.001	-	-	0.097	0.285	0.141	0.02	-	-
HCM Control Delay (s)	8	-	-	20.4	22.3	11.5	8.3	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.1	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	103	47	16	276	236	109
Future Vol, veh/h	103	47	16	276	236	109
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	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	94	94	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	52	17	294	295	136

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	623	295	431	0	-	0
Stage 1	295	-	-	-	-	-
Stage 2	328	-	-	-	-	-
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	450	744	1129	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	730	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	443	744	1129	-	-	-
Mov Cap-2 Maneuver	534	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	730	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1129	-	534	744	-	-
HCM Lane V/C Ratio	0.015	-	0.214	0.07	-	-
HCM Control Delay (s)	8.2	-	13.6	10.2	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	0.2	-	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	132	103	21	18	180
Future Vol, veh/h	92	132	103	21	18	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	83	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	159	112	23	20	196

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	135	0	-	0	483	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	359	-
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	1449	-	-	-	542	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1449	-	-	-	505	927
Mov Cap-2 Maneuver	-	-	-	-	505	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	707	-

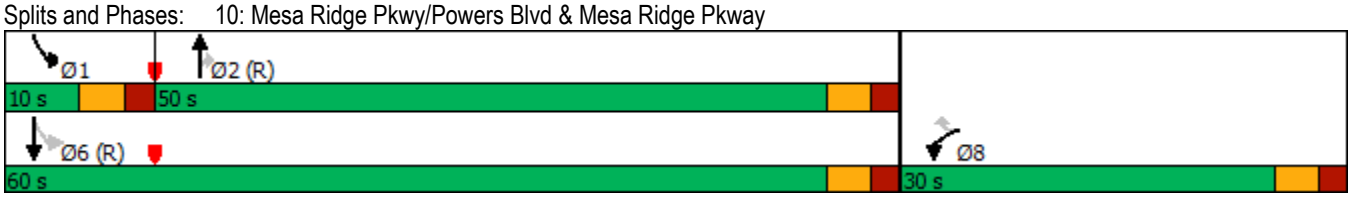
Approach	EB	WB	SB
HCM Control Delay, s	3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1449	-	-	-	505	927
HCM Lane V/C Ratio	0.069	-	-	-	0.039	0.211
HCM Control Delay (s)	7.7	-	-	-	12.4	9.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.8

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	467	187	515	176	75	712
Future Volume (vph)	467	187	515	176	75	712
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	18.2	18.2	52.3	52.3	61.8	61.8
Actuated g/C Ratio	0.20	0.20	0.58	0.58	0.69	0.69
v/c Ratio	0.70	0.41	0.27	0.19	0.14	0.32
Control Delay	38.6	7.0	11.0	2.4	6.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	7.0	11.0	2.4	6.0	6.6
LOS	D	A	B	A	A	A
Approach Delay	29.6		8.8			6.5
Approach LOS	C		A			A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 44.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway



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	15	0	1	32	0	27	1	386	51	35	359	17
Future Vol, veh/h	15	0	1	32	0	27	1	386	51	35	359	17
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	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	340	-	290	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	87	87	87	92	89	89	91	91	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	1	37	0	31	1	434	57	38	395	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	945	973	404	917	925	434	413	0	0	491	0	0
Stage 1	480	480	-	436	436	-	-	-	-	-	-	-
Stage 2	465	493	-	481	489	-	-	-	-	-	-	-
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	242	252	647	253	269	622	1146	-	-	1072	-	-
Stage 1	567	554	-	599	580	-	-	-	-	-	-	-
Stage 2	578	547	-	566	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	224	243	647	246	259	622	1146	-	-	1072	-	-
Mov Cap-2 Maneuver	224	243	-	246	259	-	-	-	-	-	-	-
Stage 1	566	535	-	598	579	-	-	-	-	-	-	-
Stage 2	549	546	-	545	530	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	17.1	0	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1146	-	-	234	246	622	1072	-	-
HCM Lane V/C Ratio	0.001	-	-	0.074	0.15	0.05	0.036	-	-
HCM Control Delay (s)	8.1	-	-	21.6	22.2	11.1	8.5	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.5	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	187	29	25	251	286	106
Future Vol, veh/h	187	29	25	251	286	106
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	500	-	-	290
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	89	89	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	203	32	28	282	314	116

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	652	314	430	0	-	0
Stage 1	314	-	-	-	-	-
Stage 2	338	-	-	-	-	-
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	433	726	1129	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	726	1129	-	-	-
Mov Cap-2 Maneuver	516	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.6	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1129	-	516	726	-	-
HCM Lane V/C Ratio	0.025	-	0.394	0.043	-	-
HCM Control Delay (s)	8.3	-	16.4	10.2	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.9	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	195	201	102	29	18	180
Future Vol, veh/h	195	201	102	29	18	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	475	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	72	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	212	218	142	32	20	196

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	174	0	-	0	800	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	642	-
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	1403	-	-	-	354	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	524	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1403	-	-	-	301	887
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	524	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1403	-	-	-	301	887
HCM Lane V/C Ratio	0.151	-	-	-	0.065	0.221
HCM Control Delay (s)	8	-	-	-	17.8	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.2	0.8

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	282	79	730	554	158	594
Future Volume (vph)	282	79	730	554	158	594
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	30.0	50.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	55.6%	11.1%	66.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	12.7	12.7	54.1	54.1	67.3	67.3
Actuated g/C Ratio	0.14	0.14	0.60	0.60	0.75	0.75
v/c Ratio	0.58	0.27	0.35	0.48	0.33	0.25
Control Delay	40.8	10.6	10.3	2.5	5.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	10.6	10.3	2.5	5.3	4.0
LOS	D	B	B	A	A	A
Approach Delay	34.2		6.9			4.3
Approach LOS	C		A			A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 51.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Powers Blvd & Mesa Ridge Pkway

Queuing and Blocking Report

Intersection: 10: Mesa Ridge Pkwy/Powers Blvd & Mesa Ridge Pkway

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	200	301	95	198	185	78	74	140	157
Average Queue (ft)	115	171	43	93	44	34	34	86	49
95th Queue (ft)	214	235	81	159	121	65	61	140	110
Link Distance (ft)			824	517	517			1437	1437
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	350	350				150	1000		
Storage Blk Time (%)					0				
Queuing Penalty (veh)					0				

Queuing and Blocking Report

Intersection: 10: Powers Blvd & Mesa Ridge Pkway

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	R	L	T	T
Maximum Queue (ft)	150	197	79	259	262	248	237	118	74
Average Queue (ft)	49	124	18	158	89	107	90	61	39
95th Queue (ft)	130	180	42	232	201	180	161	113	75
Link Distance (ft)			824	517	517			1624	1624
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	350	350				150	1000		
Storage Blk Time (%)					1	1			
Queuing Penalty (veh)					6	4			

Markup Summary

dsdlaforce (1)

Subject: Callout
Page Label: 8
Author: dsdlaforce
Date: 7/10/2018 9:45:52 AM
Color:

Did the Traffic Study for the Marksheffel Road project require the SB accel lane to enable merging onto the flow of traffic or was it dead space they used as an accel lane until the 4th leg is converted.
On the second option, what effect does it have to LOS/queuing at the intersection? Does the Filing 9 development warrant a left turn at this intersection?

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