

CASE ROAD MIXED-USE  
(DA 23-05060, VPM23-  
05059, CUP23-05047,  
DPR23-00013, DPR 23-  
00014, CUP23-05208,  
CUP23-05209 & CUP23-  
05210)

TRAFFIC ANALYSIS

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## TABLE OF CONTENTS

Table of Contents .....	ii
Appendices.....	iv
List of Exhibits .....	v
List of Tables .....	vii
List of Abbreviated Terms .....	viii
<b>1 Introduction.....</b>	<b>1</b>
1.1 Summary of Findings.....	1
1.2 Project Overview .....	3
1.3 Analysis Scenarios .....	11
1.4 Study Area .....	12
1.5 Deficiencies .....	15
1.6 Recommendations .....	17
1.7 Truck Access and Circulation.....	24
<b>2 Methodologies .....</b>	<b>27</b>
2.1 Level of Service.....	27
2.2 Intersection Capacity Analysis.....	27
2.3 Traffic Signal Warrant Analysis Methodology .....	29
2.4 Queuing Analysis.....	30
2.5 Minimum Acceptable Levels of Service (LOS) .....	31
2.6 Deficiency Criteria .....	32
2.7 Project Fair Share Calculation Methodology.....	32
<b>3 Area Conditions .....</b>	<b>33</b>
3.1 Existing Circulation Network .....	33
3.2 City of Perris General Plan and GVSP Circulation Elements .....	33
3.3 Pedestrian Facilities.....	40
3.4 Truck Routes.....	40
3.5 Existing Traffic Counts .....	40
3.6 Intersection Operations Analysis.....	43
3.7 Traffic Signal Warrants Analysis .....	43
3.8 Off-Ramp Queuing Analysis .....	43
<b>4 Projected Future Traffic.....</b>	<b>49</b>
4.1 Project Trip Generation.....	49
4.2 Project Trip Generation Comparison.....	53
4.3 Project Trip Distribution.....	54
4.4 Modal Split.....	59
4.5 Project Trip Assignment.....	59
4.6 Background Traffic.....	59
4.7 Cumulative Development Traffic.....	65
<b>5 E+P Traffic Conditions.....</b>	<b>71</b>

- 5.1 Roadway Improvements ..... 71
- 5.2 E+P Traffic Volume Forecasts ..... 71
- 5.3 Intersection Operations Analysis ..... 71
- 5.4 Traffic Signal Warrants Analysis ..... 76
- 5.5 Off-Ramp Queuing Analysis ..... 76
- 5.6 Deficiencies and Improvements ..... 77
- 6 EAC and EAPC (2026) Traffic Conditions ..... 79
  - 6.1 Roadway Improvements ..... 79
  - 6.2 EAC and EAPC (2026) Traffic Volume Forecasts ..... 79
  - 6.3 Intersection Operations Analysis ..... 86
  - 6.4 Traffic Signal Warrants Analysis ..... 88
  - 6.5 Off-Ramp Queuing Analysis ..... 88
  - 6.6 Deficiencies and Improvements ..... 89
- 7 Local and Regional Funding Mechanisms ..... 93
  - 7.1 Transportation Uniform Mitigation Fee (TUMF) Program ..... 93
  - 7.2 City of Perris Development Impact Fee (DIF) Program ..... 93
  - 7.3 Fair Share Contribution ..... 94
- 8 References ..... 97

## APPENDICES

Appendix 1.1: Traffic Study Scoping Agreement

Appendix 1.2: Site Adjacent Queues

Appendix 3.1: Traffic Counts

Appendix 3.2: Existing (2024) Conditions Intersection Operations Analysis Worksheets

Appendix 3.3: Existing (2024) Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 3.4: Existing (2024) Conditions Off-Ramp Queuing Analysis Worksheets

Appendix 5.1: E+P Conditions Intersection Operations Analysis Worksheets

Appendix 5.2: E+P Conditions (Interim Conditions) Intersection Operations Analysis Worksheets

Appendix 5.3: E+P Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 5.4: E+P Off-Ramp Queuing Analysis Worksheets

Appendix 5.5: E+P Conditions Intersection Operations Analysis Worksheets With Improvements

Appendix 6.1: EAC (2026) Conditions Intersection Operations Analysis Worksheets

Appendix 6.2: EAPC (2026) Conditions Intersection Operations Analysis Worksheets

Appendix 6.3: EAC (2026) Conditions (Interim Conditions) Intersection Operations Analysis Worksheets

Appendix 6.4: EAPC (2026) Conditions (Interim Conditions) Intersection Operations Analysis Worksheets

Appendix 6.5: EAC (2026) Without Project Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 6.6: EAPC (2026) Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 6.7: EAC (2026) Off-Ramp Queuing Analysis Worksheets

Appendix 6.8: EAPC (2026) Off-Ramp Queuing Analysis Worksheets

Appendix 6.9: EAPC (2026) Conditions Intersection Operations Analysis Worksheets With Improvements

Appendix 6.10: EAPC (2026) Off-Ramp Queuing Analysis Worksheets With Improvements

Appendix 6.11: Ethanac Queues

## LIST OF EXHIBITS

Exhibit 1-1: Location Map.....	2
Exhibit 1-2: Concept Striping Plan for Industrial Component (1 of 2).....	4
Exhibit 1-2: Concept Striping Plan for Industrial Component (2 of 2).....	5
Exhibit 1-3: Concept Striping Plan for Retail Component.....	6
Exhibit 1-4: Civil Plans (1 of 3).....	7
Exhibit 1-4: Civil Plans (2 of 3).....	8
Exhibit 1-4: Civil Plans (3 of 3).....	9
Exhibit 1-5: Preliminary Site Plan.....	10
Exhibit 1-6: Study Area.....	14
Exhibit 1-7: Site Access Recommendations.....	18
Exhibit 1-8: Driveway Spacing.....	23
Exhibit 1-9: Truck Access (1 of 2).....	25
Exhibit 1-9: Truck Access (2 of 2).....	26
Exhibit 3-1: Existing Number of Through Lanes and Intersection Controls (1 of 2).....	34
Exhibit 3-1: Existing Number of Through Lanes and Intersection Controls (2 of 2).....	35
Exhibit 3-2: City of Perris General Plan Circulation Element.....	36
Exhibit 3-3: City of Perris General Plan Roadway Cross-Sections.....	37
Exhibit 3-4: GVSP Circulation Element.....	38
Exhibit 3-5: GVSP Roadway Cross-Sections.....	39
Exhibit 3-6: Existing Pedestrian Facilities.....	41
Exhibit 3-7: City of Perris Truck Routes.....	42
Exhibit 3-8: Existing (2024) Traffic Volumes (Actual Vehicles) (1 of 2).....	44
Exhibit 3-8: Existing (2024) Traffic Volumes (Actual Vehicles) (2 of 2).....	45
Exhibit 4-1: Project (Truck) Trip Distribution.....	55
Exhibit 4-2: Project (Warehouse Passenger Car) Trip Distribution.....	56
Exhibit 4-3: Project (Hotel Passenger Car) Trip Distribution.....	57
Exhibit 4-4: Project (Retail and Storage Passenger Car) Trip Distribution.....	58
Exhibit 4-5: Project Only Traffic volumes (Actual Vehicles) (1 of 2).....	60
Exhibit 4-5: Project Only Traffic volumes (Actual Vehicles) (2 of 2).....	61
Exhibit 4-6: Project Only Traffic volumes (PCE) (1 of 2).....	62

Exhibit 4-6: Project Only Traffic volumes (PCE) (2 of 2) ..... 63

Exhibit 4-7: Project Only Traffic volumes (Interim Conditions Only) ..... 64

Exhibit 4-8: Cumulative Development Location Map ..... 67

Exhibit 4-9: Cumulative Only Traffic Volumes (Actual Vehicles) (1 of 2)..... 68

Exhibit 4-9: Cumulative Only Traffic Volumes (Actual Vehicles) (2 of 2)..... 69

Exhibit 5-1: E+P Traffic Volumes (Actual Vehicles) (1 of 2) ..... 72

Exhibit 5-1: E+P Traffic Volumes (Actual Vehicles) (2 of 2) ..... 73

Exhibit 5-2: E+P Traffic Volumes (Interim Conditions Only)..... 74

Exhibit 6-1: EAC (2026) Traffic Volumes (Actual Vehicles) (1 of 2)..... 80

Exhibit 6-1: EAC (2026) Traffic Volumes (Actual Vehicles) (2 of 2)..... 81

Exhibit 6-2: EAC (2026) Traffic Volumes (Interim Conditions Only) ..... 82

Exhibit 6-3: EAPC (2026) Traffic Volumes (Actual Vehicles) (1 of 2)..... 83

Exhibit 6-3: EAPC (2026) Traffic Volumes (Actual Vehicles) (2 of 2)..... 84

Exhibit 6-4: EAPC (2026) Traffic Volumes (Interim Conditions Only) ..... 85

## LIST OF TABLES

Table 1-1: Intersection Analysis Locations ..... 13

Table 1-2: Summary of LOS..... 15

Table 1-3: Summary of Improvements..... 22

Table 1-4: Queuing Analysis for Site Adjacent Intersections ..... 24

Table 2-1: Signalized Intersection LOS Thresholds ..... 28

Table 2-2: Unsignalized Intersection LOS Thresholds ..... 29

Table 2-3: Traffic Signal Warrant Analysis Locations ..... 30

Table 3-1: Intersection Analysis for Existing (2024) Conditions ..... 46

Table 3-2: Peak Hour Queuing Summary for Existing (2024) Conditions ..... 47

Table 4-1: Project Trip Generation Rates ..... 51

Table 4-2: Project Trip Generation Summary (Actual Vehicles)..... 52

Table 4-3: Project Trip Generation Summary (PCE) ..... 53

Table 4-4: 1990 SP EIR Trip Generation ..... 54

Table 4-5: Trip Generation Comparison..... 54

Table 4-6: Cumulative Development land use Summary ..... 65

Table 5-1: Intersection Analysis for E+P Conditions ..... 75

Table 5-2: Peak Hour Off-Ramp Queuing Summary for E+P Conditions ..... 76

Table 5-3: Intersection Analysis for E+P Conditions With Improvements ..... 77

Table 6-1: Intersection Analysis for EAC and EAPC (2026) Conditions ..... 87

Table 6-2: Peak Hour Off-Ramp Queuing Summary for EAC and EAPC (2026) Conditions ..... 89

Table 6-3: Intersection Analysis for EAPC (2026) Conditions With Improvements..... 90

Table 6-4: Peak Hour Queuing Summary for EAPC (2026) Conditions With improvements..... 91

Table 6-5: Ethanac Road Queuing Analysis..... 91

Table 7-1: Project Fair Share Calculations for Intersections..... 95

## LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
CUP	Conditional Use Permit
DA	Development Agreement
DIF	Development Impact Fee
DPR	Development Plan Review
E+P	Existing Plus Project
EAC	Existing plus Ambient plus Cumulative
EAPC	Existing plus Ambient plus Project plus Cumulative
EIR	Environmental Impact Report
GVSP	Green Valley Specific Plan
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
PA	Planning Area
PCE	Passenger Car Equivalent
PHF	Peak Hour Factor
Project	Case Road Mixed-Use
RCTC	Riverside County Transportation Commission
RIVCOM	Riverside County Transportation Model
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategies
SCAG	Southern California Association of Governments
TA	Traffic Analysis
TTM	Tentative Tract Map
TUMF	Transportation Uniform Mitigation Fee
VPM	Vesting Parcel Map
WRCOG	Western Riverside Council of Governments

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# 1 INTRODUCTION

This report presents the results of the Traffic Analysis (TA) for Case Road Mixed-Use Specific Plan Amendment (“Project”), which is located between Watson Road and Ethanac Road, east of Green Valley Parkway and west of Case Road in Green Valley Specific Plan (GVSP) Area in the City of Perris, as shown on Exhibit 1-1. The applicable case numbers for the Project are as follows: Development Agreement (DA) 23-05060, Vesting Parcel Map 35700 (VPM) 23-05059, Conditional Use Permit (CUP) 23-05047, Development Plan Review (DPR) 23-00013, DPR23-00014, CUP23-05208, CUP23-05209, and CUP23-05210. The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project and, where necessary, recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This traffic study has been prepared in accordance with the City of Perris’ Transportation Impact Analysis Guidelines for CEQA (California Environmental Quality Act) (May 2020), and consultation with City of Perris staff during the traffic study scoping process. (1) The Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

## 1.1 SUMMARY OF FINDINGS

All study area intersections are forecast to operate at an acceptable level of service (LOS) during the AM and PM peak hours with the addition of Project traffic under Existing Plus Project (E+P) traffic conditions based on the Highway Capacity Manual (HCM) methodology. The following intersections are anticipated to meet peak hour or average daily traffic (ADT) based traffic signal warrants with the addition of Project traffic under E+P traffic conditions:

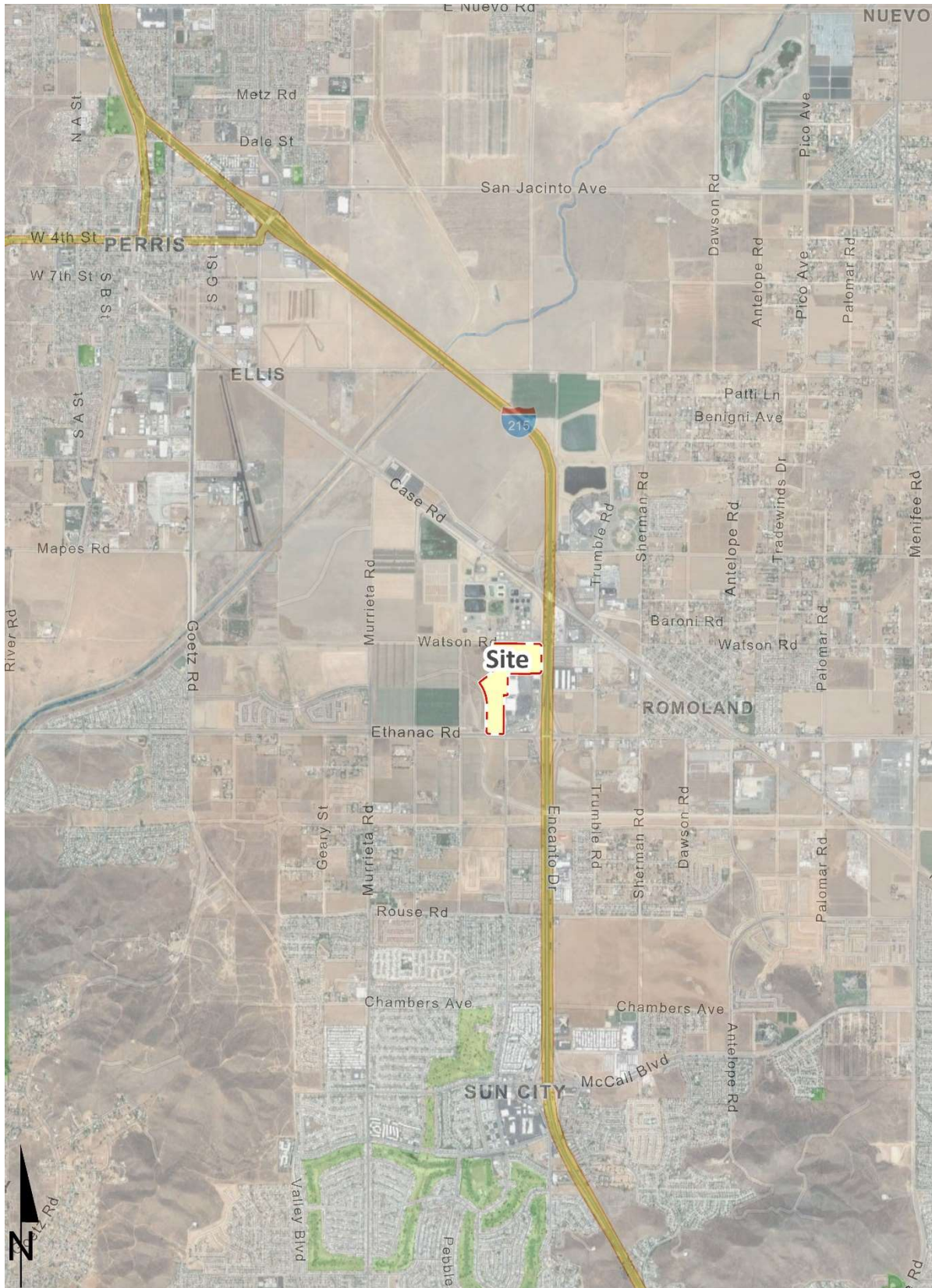
- Green Valley Parkway & Ethanac Road (#10)
- Case Road & Mapes Road (#15)
- Case Road & Driveway 6 (#17)

It should be noted that a traffic signal is not needed to maintain acceptable peak hour operations under E+P traffic conditions. As such, a city engineer should monitor if other warrants are met for signalization. In cumulative conditions, 12 study area intersections are anticipated to perform at an unacceptable LOS. The Project will be responsible for fair share contributions towards 11 of the deficient intersections for the recommended improvements not covered by a pre-existing fee program or constructed by the Project as discussed in this report. The Project will be required to pay fees, consistent with the City’s requirements, which would be applicable towards 6 of the deficient intersections for the recommended improvements identified as being covered by a pre-existing fee program (see Section 7 *Local and Regional Funding Mechanisms*). Additional details are provided in Section 1.6 *Recommendations* of this report. All study intersections are anticipated to operate at an acceptable LOS with the implementation of the recommended improvements.

The Project is to construct the following improvements as design features in conjunction with development of the site in order to facilitate site access:

- Project to construct along the Project’s frontages of Green Valley Parkway, Ethanac Road, Watson Road, and Case Road at their ultimate half-width consistent with the City’s standards. Where applicable, the Project would need to provide an additional 12-feet of pavement on the opposite direction of travel on each of these roadways in order to facilitate site access. Detailed recommendations are included in Section 1.6.1 *Site Adjacent and Site Access Recommendations* of this report.

EXHIBIT 1-1: LOCATION MAP



- All driveways on Green Valley Parkway will be stop-controlled with right-in/right-out access for passenger cars only with the exception of Driveway 3 on Green Valley Parkway which will allow for full turning movements of passenger cars only. Driveway 5 on Watson Road will be stop-controlled with left-in/right-out access for trucks only. A directional median is to be constructed to prevent trucks from exiting Driveway 5 to the left. Driveway 6 (existing driveway) on Case Road will continue to allow for full turning movements for passenger cars only. A minimum of one lane for ingress and egress traffic is to be constructed at each access point. Note the self-storage and retail uses fronting Green Valley Parkway will also have reciprocal access to the adjacent shopping center and use of existing driveways.
- Project to construct a turn pocket with a minimum of 150-feet of storage on Green Valley Parkway for the southbound left-turn movement, a turn pocket with a minimum of 150-feet for the westbound left, a turn pocket with a minimum of 150-feet of storage on Watson Road for the westbound left-turn pocket, and a turn pocket with a minimum of 175-feet of storage within the existing median on Ethanac Road for the eastbound left-turn movement.

Concept striping exhibits have been prepared for the Project frontages. These exhibits demonstrate the proposed turn lanes, striping, and turn pocket lengths, consistent with the site recommendations. The concept striping plans are provided on Exhibit 1-2 for the industrial component showing the frontages of Watson Road and Case Road and on Exhibit 1-3 for the retail component showing the frontage of Ethanac Road. The concept plan was also prepared to ensure trucks could turn into and out of the industrial component of the Project. Additional civil engineering plans, consistent with the site access recommendations, have been included to illustrate the Project driveways along all Project fronting roadways of Green Valley Parkway, Watson Road, and Case Road. The civil engineering plans are provided on Exhibit 1-4.

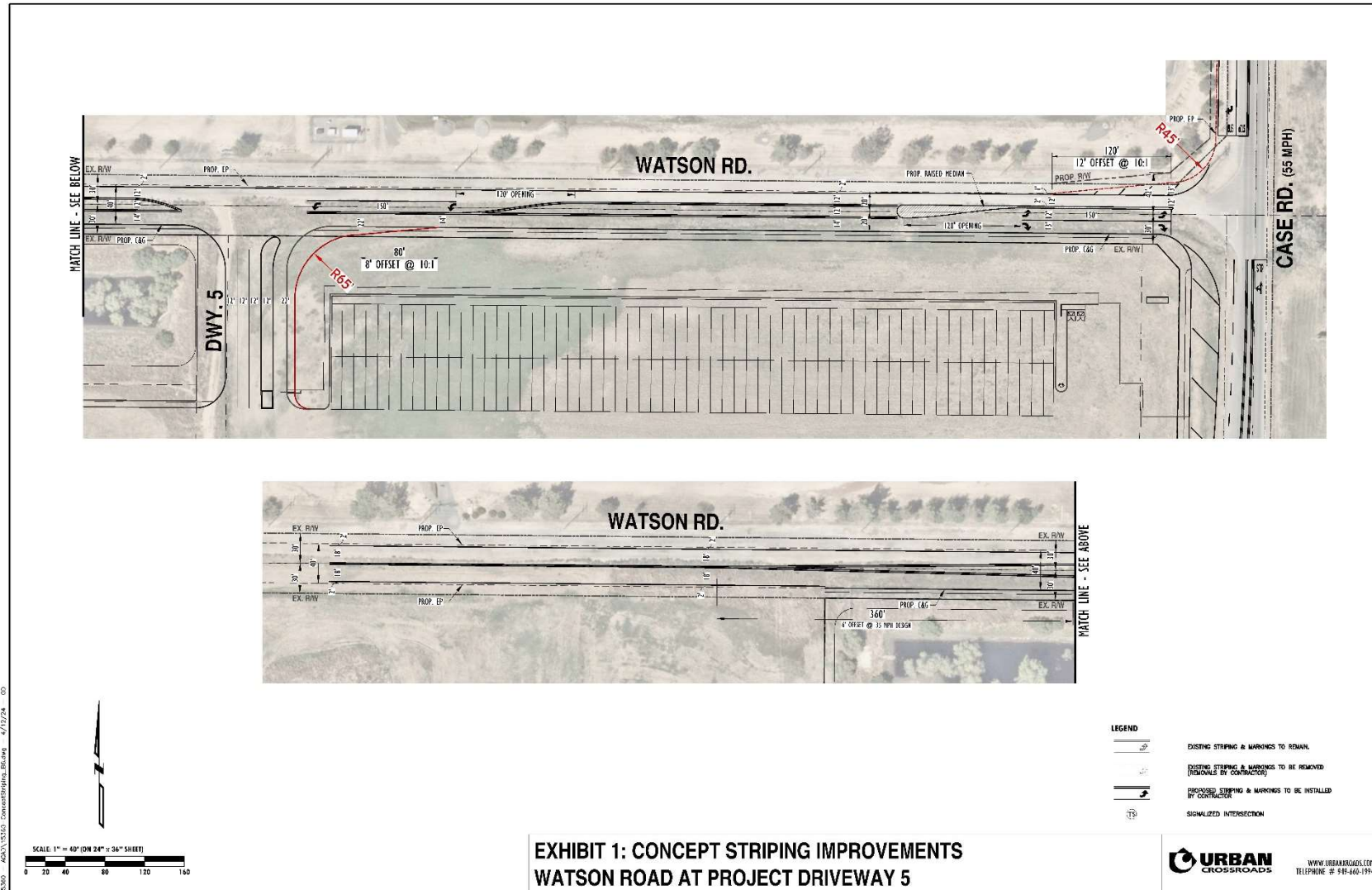
## 1.2 PROJECT OVERVIEW

A preliminary site plan for the proposed Project is shown on Exhibit 1-5. The following land uses are proposed as part of the Project within Planning Areas (PA) 40 through 44 for the GVSP:

- 498,000 square feet of industrial;
- 211,900 square feet of self-storage use (17,900-square-foot single story building, 96,000-square-foot two-story building, and 98,000-square-foot two-story building) plus covered trailer parking on 2.75 acres for 84 covered recreational vehicle (RV) parking stalls and 131 uncovered RV parking stalls;
- 32,600 square feet of general commercial use (27,000-square-foot building for retail and restaurants and two 2,800-square-foot fast-food with drive-through restaurant pads) (note that the 319,000 square feet of general commercial use that currently exists in PAs 42, 43, and 44 is not included); and
- 20,000-square-foot 4-story hotel (128-keys).

As indicated on Exhibit 1-5, access to the proposed self-storage, hotel, and commercial retail uses will be from Green Valley Parkway, while access to the industrial component will be from Watson Road and Case Road. Site access Driveways 1, 2 and 4 along Green Valley Parkway are restricted to right-in/right-out access only, while Driveway 3 is proposed to align with the future driveway for Tentative Tract Map (TTM) No. 37818 and assumes a break in the median along Green Valley Parkway for full turning movements (e.g., no turn restrictions). Driveway 5 on Watson Road allows for left-in/right-out access and is intended to serve truck traffic for the Project's industrial warehouse building. The land uses fronting Green Valley Parkway will also have reciprocal access to the adjacent existing shopping center (including Driveway 6 which is the northern-most intersection of the existing shopping center on Case Road.

**EXHIBIT 1-2: CONCEPT STRIPING PLAN FOR INDUSTRIAL COMPONENT (1 OF 2)**





**EXHIBIT 1-3: CONCEPT STRIPING PLAN FOR RETAIL COMPONENT**

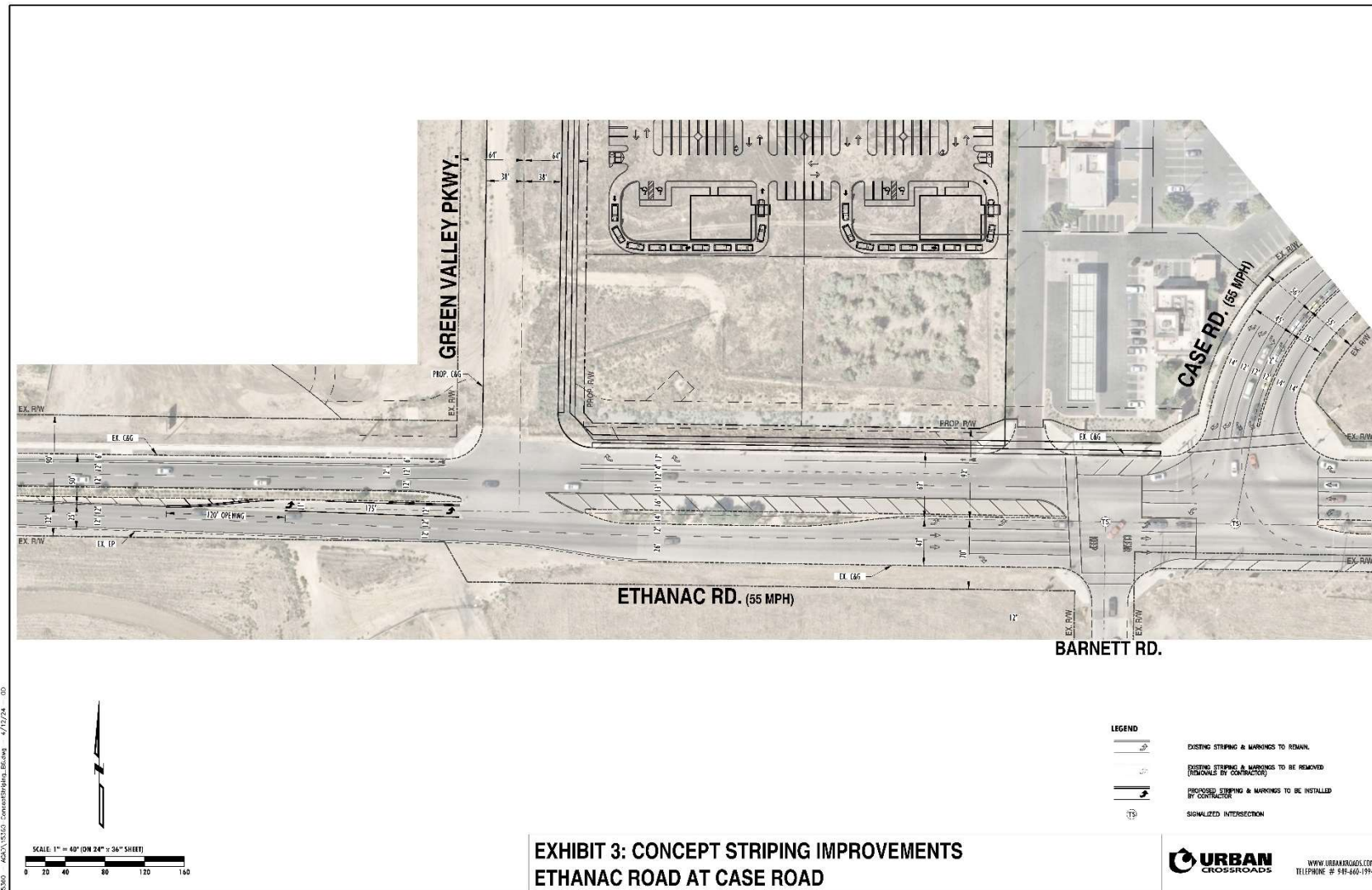


EXHIBIT 1-4: CIVIL PLANS (1 OF 3)

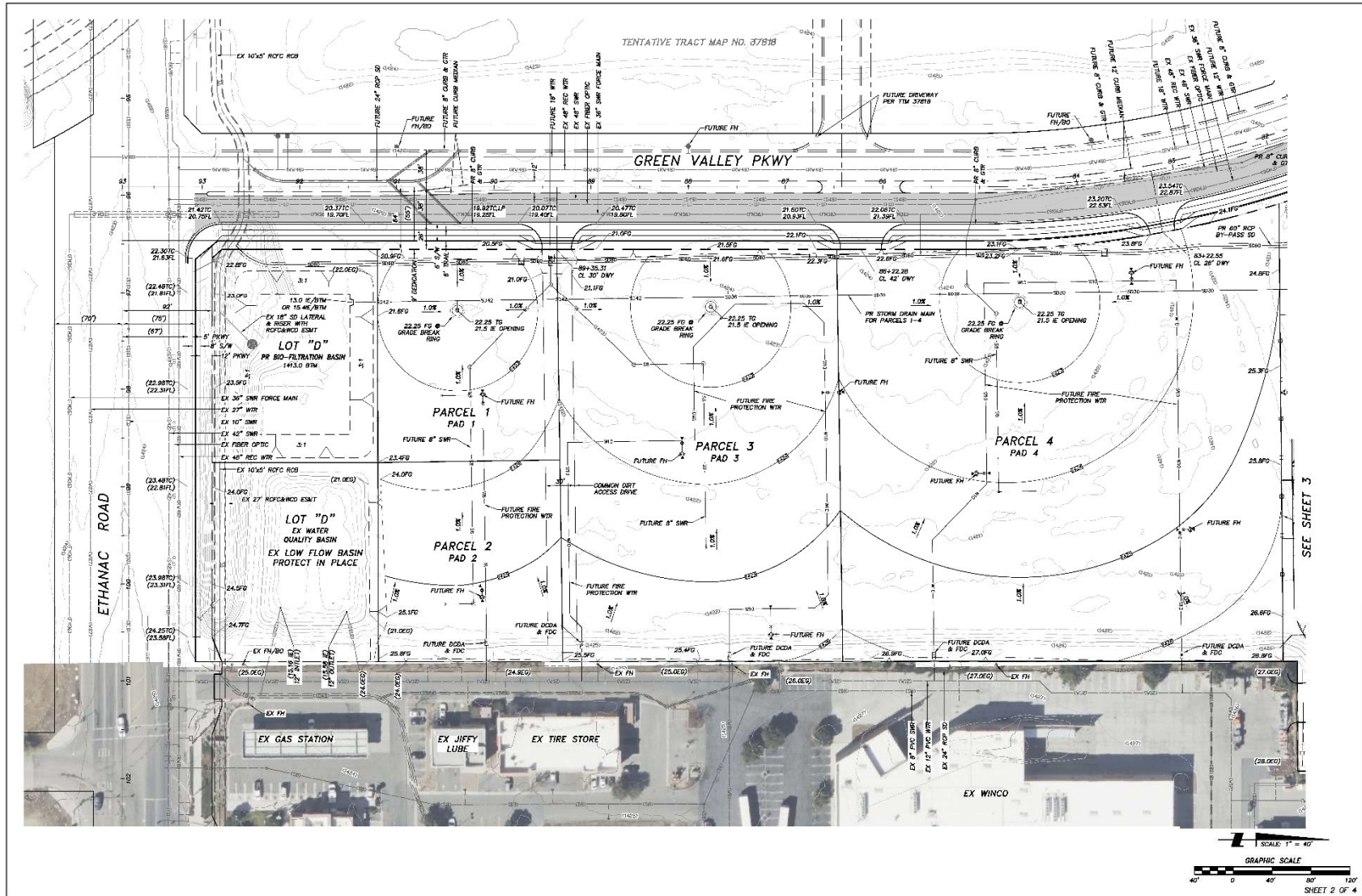




EXHIBIT 1-4: CIVIL PLANS (3 OF 3)

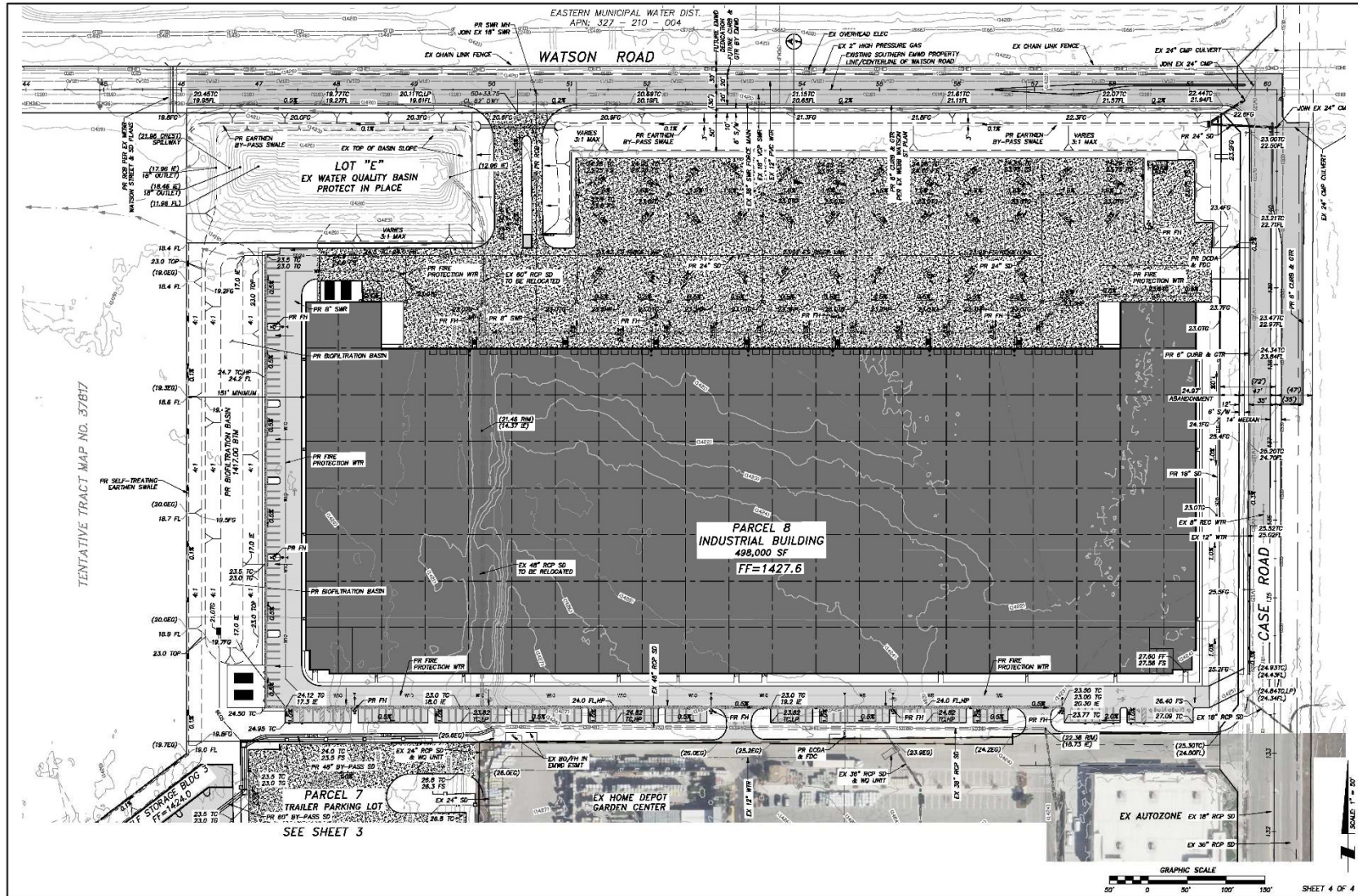
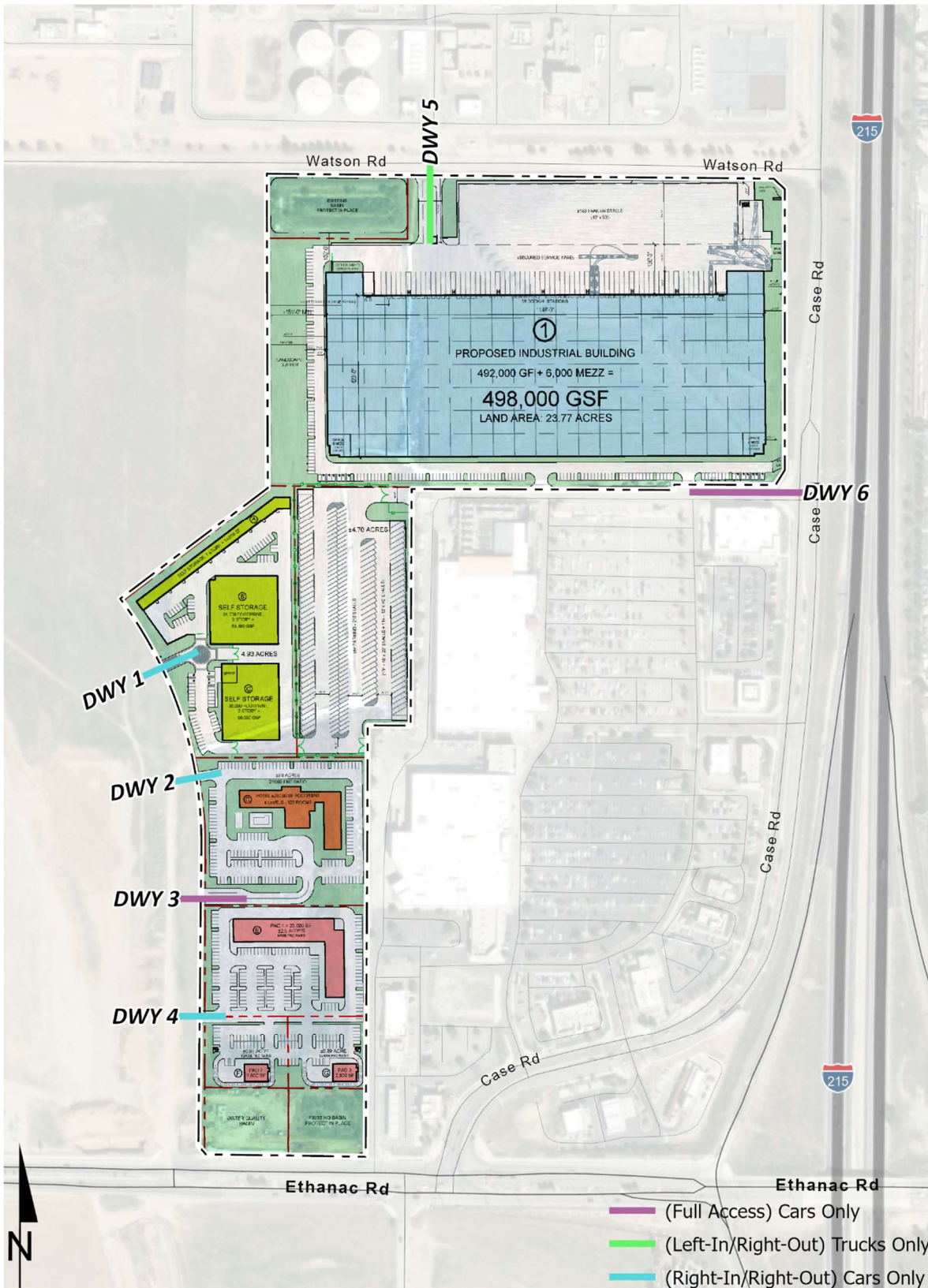


EXHIBIT 1-5: PRELIMINARY SITE PLAN



Alternative access has been evaluated for near term interim conditions at Green Valley Parkway and Ethanac Road (#10), which restricts the southbound left-turn movement. This alternative access assumes right-in/left-in/right-out only access until the City of Perris and City of Menifee permit southbound left-turn traffic.

In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11<sup>th</sup> Edition, 2021) (2) were used. The Project is anticipated to generate 5,770 two-way trips per day with 874 AM peak hour trips and 836 PM peak hour trips (actual vehicles). The Project is anticipated to generate a total of 5,916 passenger car equivalent (PCE) two-way trips per day with 889 AM PCE peak hour trips and 851 PM PCE peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

### 1.3 ANALYSIS SCENARIOS

For the purposes of this traffic analysis, traffic conditions have been evaluated for each of the following conditions:

- Existing (2024) Conditions
- E+P Conditions – with Project improvements
- Existing Plus Ambient Growth Plus Cumulative (E+A+C) (2026)
- Existing Plus Ambient Growth Plus Project Plus Cumulative (E+A+P+C) (2026)

#### 1.3.1 EXISTING (2024) CONDITIONS

Information for Existing (2024) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Local schools were in session with in-person instruction at the time of the traffic counts. Traffic counts were conducted in May 2022, November 2022, and December 2023 based on vehicle classification. A 1% growth rate was conservatively applied to the December 2023 counts to establish a baseline for Existing (2024) conditions, since it was to only cover a month of growth. The remaining collected counts utilized a 3% growth rate to reflect the baseline for Existing (2024) conditions because the change observed for historical data is not significant between 2022 and 2024.

#### 1.3.2 EXISTING PLUS PROJECT CONDITIONS

The E+P with Project improvements conditions analysis determines the potential circulation system deficiencies based on a comparison of the E+P traffic conditions to Existing conditions. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. Cumulative development projects and ambient growth are not included for E+P traffic conditions.

### 1.3.3 EAC & EAPC (2026) CONDITIONS

The EAC and EAPC (2026) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project under EAPC conditions (no other improvements to be built by others are assumed). To account for background traffic growth, an ambient growth factor from Existing (2024) conditions of 6.09% is included for both EAC and EAPC (2026) traffic conditions.

Conservatively, this TA estimates the area ambient traffic growth and then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed ambient growth rates; and some of these related projects may not be implemented and operational within the 2026 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in this traffic study (ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2026 conditions.

## 1.4 STUDY AREA

To ensure that this TA satisfies the City of Perris' traffic study requirements, Urban Crossroads, Inc. prepared a Project traffic study scoping package for review by City of Perris staff prior to the preparation of this report. This agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The scoping agreement is included in Appendix 1.1 of this TA.

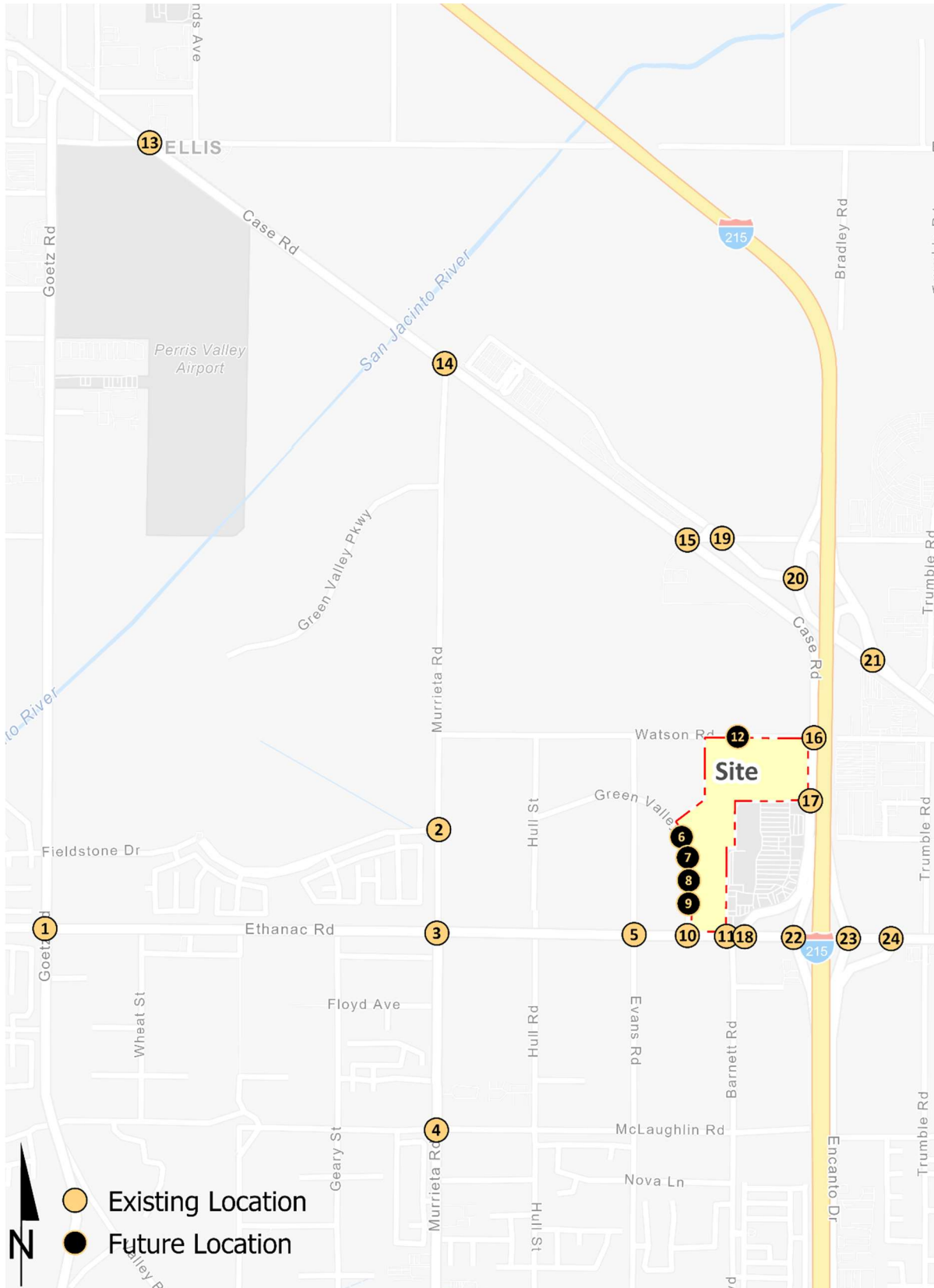
The 24 study area intersections shown on Exhibit 1-6 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with City of Perris staff. At a minimum, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the City's traffic study guidelines. (1) The "50 peak hour trip" criterion represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and widely used within Riverside County (including the City of Perris) for estimating a potential area of influence (i.e., study area).

The intent of a Congestion Management Project (CMP) is to link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and most recently updated in 2019 as part of the Riverside County Long Range Transportation Study. The Riverside County Transportation Commission (RCTC) adopted the 2019 CMP for the County of Riverside in December 2019. (3) There are no study area intersections identified as a Riverside County CMP intersection.

**TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS**

ID	Intersection	Jurisdiction	CMP?
1	Goetz Rd. & Ethanac Rd.	Perris, Meniffee	No
2	Murrieta Rd. & Green Valley Pkwy.	Perris	No
3	Murrieta Rd. & Ethanac Rd.	Perris, Meniffee	No
4	Murrieta Rd. & McLaughlin Rd.	Meniffee	No
5	Evans Rd. & Ethanac Rd.	Perris, Meniffee	No
6	Green Valley Pkwy. & Driveway 1	Perris	No
7	Green Valley Pkwy. & Driveway 2	Perris	No
8	Green Valley Pkwy. & Driveway 3	Perris	No
9	Green Valley Pkwy. & Driveway 4	Perris	No
10	Green Valley Pkwy. & Ethanac Rd.	Perris, Meniffee	No
11	Barrett Rd. & Ethanac Rd.	Perris, Meniffee	No
12	Driveway 5 & Watson Rd.	Perris	No
13	Case Rd. & Ellis Av.	Perris	No
14	Murrieta Rd. & Case Rd.	Perris	No
15	Case Rd. & Mapes Rd.	Perris	No
16	Case Rd. & Watson Rd.	Perris	No
17	Case Rd. & Driveway 6	Perris	No
18	Case Rd. & Ethanac Rd.	Perris	No
19	Bonnie Dr. & Mapes Rd.	Perris	No
20	I-215 SB Ramps/SR-74 & Bonnie Dr.	Perris, Caltrans	No
21	I-215 NB Ramps & SR-74	Meniffee, Caltrans	No
22	I-215 SB Ramps & Ethanac Rd.	Perris, Caltrans	No
23	I-215 NB Ramps & Ethanac Rd.	Perris, Caltrans	No
24	Encanto Dr. & Ethanac Rd.	Perris	No

EXHIBIT 1-6: STUDY AREA



### 1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area Conditions*, Section 5 *E+P Traffic Conditions*, and Section 6 *EAC & EAPC (2026) Traffic Conditions* include the detailed analysis. A summary of LOS results for all analysis scenarios is presented in Table 1-2.

**TABLE 1-2: SUMMARY OF LOS**

#	Intersection	Existing		E+P		EAC (2026)		EAPC (2026)	
		AM	PM	AM	PM	AM	PM	AM	PM
1	Goetz Rd. & Ethanac Rd.	●	●	●	●	●	●	●	●
2	Murrieta Rd. & Green Valley Pkwy.	●	●	●	●	●	●	●	●
3	Murrieta Rd. & Ethanac Rd.	●	●	●	●	●	●	●	●
4	Murrieta Rd. & McLaughlin Rd.	●	●	●	●	●	●	●	●
5	Evans Rd. & Ethanac Rd.	●	●	●	●	●	●	●	●
6	Green Valley Pkwy. & Driveway 1	Future Intersection		●	●	Future Intersection		●	●
7	Green Valley Pkwy. & Driveway 2	Future Intersection		●	●	Future Intersection		●	●
8	Green Valley Pkwy. & Driveway 3	Future Intersection		●	●	●	●	●	●
9	Green Valley Pkwy. & Driveway 4	Future Intersection		●	●	Future Intersection		●	●
10	Green Valley Pkwy. & Ethanac Rd.	Future Intersection		●	●	●	●	●	●
11	Barrett Rd. & Ethanac Rd.	●	●	●	●	●	●	●	●
12	Driveway 5 & Watson Rd.	Future Intersection		●	●	Future Intersection		●	●
13	Case Rd. & Ellis Av.	●	●	●	●	●	●	●	●
14	Murrieta Rd. & Case Rd.	●	●	●	●	●	●	●	●
15	Case Rd. & Mapes Rd.	●	●	●	●	●	●	●	●
16	Case Rd. & Watson Rd.	●	●	●	●	●	●	●	●
17	Case Rd. & Driveway 6	●	●	●	●	●	●	●	●
18	Case Rd. & Ethanac Rd.	●	●	●	●	●	●	●	●
19	Bonnie Dr. & Mapes Rd.	●	●	●	●	●	●	●	●
20	I-215 SB Ramps/SR-74 & Bonnie Dr.	●	●	●	●	●	●	●	●
21	I-215 NB Ramps & SR-74	●	●	●	●	●	●	●	●
22	I-215 SB Ramps & Ethanac Rd.	●	●	●	●	●	●	●	●
23	I-215 NB Ramps & Ethanac Rd.	●	●	●	●	●	●	●	●
24	Encanto Dr. & Ethanac Rd.	●	●	●	●	●	●	●	●

● LOS=A-D   ● LOS=E   ● LOS=F

#### 1.5.1 EXISTING (2024) CONDITIONS

##### Intersections

The following study area intersection is currently operating at an unacceptable LOS during the peak hours:

- Encanto Drive & Ethanac Road (#24) – LOS F AM and PM peak hours

##### Queues

There are no movements that currently experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows for Existing (2024) traffic conditions.

### 1.5.2 E+P CONDITIONS

#### *Intersections*

The following study area intersection is anticipated to continue to operate at an unacceptable LOS during the peak hours with the addition of Project traffic under E+P traffic conditions:

- Encanto Drive & Ethanac Road (#24) – LOS F AM and PM peak hours

#### *Queues*

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows with the addition of Project traffic for E+P traffic conditions.

### 1.5.3 EAC & EAPC (2026) CONDITIONS

#### *Intersections*

The following study area intersections are anticipated to operate at an unacceptable LOS under EAC (2026) traffic conditions:

- Goetz Road & Ethanac Road (#1) – LOS F AM and PM peak hours
- Murrieta Road & Green Valley Parkway (#2) – LOS F PM peak hour only
- Murrieta Road & Ethanac Road (#3) – LOS F AM and PM peak hours
- Evans Road & Ethanac Road (#5) – LOS F AM and PM peak hours
- Green Valley Parkway & Ethanac Road (#10) – LOS F AM and PM peak hours
- Case Road & Ellis Avenue (#13) – LOS F AM and PM peak hours
- Murrieta Road & Case Road (#14) – LOS F AM and PM peak hours
- Case Road & Mapes Road (#15) – LOS F AM and PM peak hours
- I-215 Southbound Ramps/SR-74 & Bonnie Drive (#20) – LOS F AM and PM peak hours
- I-215 Southbound Ramps & Ethanac Road (#22) – LOS F AM and PM peak hours
- I-215 Northbound Ramps & Ethanac Road (#23) – LOS F AM and PM peak hours
- Encanto Drive & Ethanac Road (#24) – LOS F AM and PM peak hours

The intersection of Murrieta Road and Green Valley Parkway (#2) is anticipated to operate at an unacceptable LOS (LOS E) during the AM peak hour with the addition of Project traffic under EAPC (2026) traffic conditions in addition to the deficient locations identified under EAC (2026) traffic conditions.

## Queues

The following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows for EAC (2026) traffic conditions:

- I-215 Southbound Ramps & Ethanac Road (#22) southbound right – AM and PM peak hours
- I-215 Northbound Ramps & Ethanac Road (#23) northbound right – AM and PM peak hours

The following additional movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows with the addition of project traffic for EAPC (2026) traffic conditions:

- I-215 Southbound Ramps/SR-74 & Bonnie Drive (#20) southbound right – AM and PM peak hours
- I-215 Northbound Ramps & Ethanac Road (#23) northbound shared left-through – PM peak hour only

Intersection improvements to the I-215 Southbound Ramps/SR-74 at Bonnie Drive are anticipated to resolve the peak hour queues under EAPC (2026) traffic conditions. Turn pocket storages are recommended to be lengthened for the southbound and northbound left turn lanes at the I-215 Southbound and Northbound Ramps on Ethanac Road, respectively, in addition to the intersection improvements needed at both ramp locations to accommodate acceptable peak hour operations.

## 1.6 RECOMMENDATIONS

### 1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project and are consistent with the concept striping plans and civil engineering plans previously shown in Exhibit 1-2, Exhibit 1-3, and Exhibit 1-4. The site adjacent recommendations are shown on Exhibit 1-7. Final site access improvements/intersection geometries shall be reviewed and approved by the City of Perris Engineering Department.

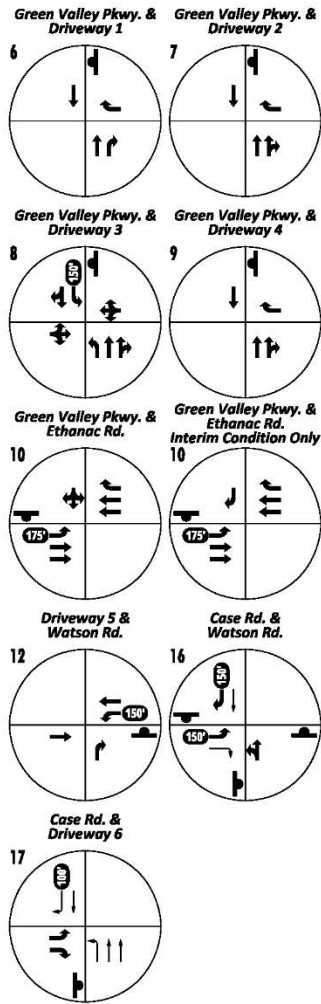
**Recommendation 1 – Green Valley Parkway & Driveway 1 (#6)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a right turn lane. The driveway should be restricted to right-in/right-out access for passenger cars only. Access is to be controlled by a median on Green Valley Parkway.

**Recommendation 2 – Green Valley Parkway & Driveway 2 (#7)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a right turn lane. The driveway should be restricted to right-in/right-out access for passenger cars only. Access is to be controlled by a median on Green Valley Parkway.

**EXHIBIT 1-7: SITE ACCESS RECOMMENDATIONS**



**LEGEND**

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location
- ⊥ = Stop Sign Improvement
- = Existing Traffic Lane
- ↗ = Traffic Lane Improvement
- 150' = Recommended Minimum Turn Pocket Length Improvement

**Recommendation 3 – Green Valley Parkway & Driveway 3 (#8)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-through-right turn lane. The driveway should allow for full turning movements (e.g., no turn restrictions) for passenger cars only and should align with the future driveway for TTM No. 37818 which assumes a break in the median along Green Valley Parkway to accommodate vehicle turns.

**Recommendation 4 – Green Valley Parkway & Driveway 4 (#9)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a right turn lane. The driveway should be restricted to right-in/right-out access for passenger cars only. Access is to be controlled by a median on Green Valley Parkway.
  - Alternative access has been evaluated for near term interim conditions, which restricts the southbound left-turn movement. This alternative access assumes right-in/left-in/right-out only access until the City of Perris and City of Menifee permit southbound left-turn traffic and full-turning movements, contingent upon agreement to install a traffic signal.

**Recommendation 5 – Green Valley Parkway & Ethanac Road (#10)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a shared left-right turn lane. The driveway should allow for full turning movements (e.g., no turn restrictions).

**Recommendation 6 – Driveway 5 & Watson Road (#12)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the northbound approach and a right turn lane for trucks only. The driveway should allow for left-in/right-out access only. A directional median is to be constructed to prevent trucks from exiting Driveway 5 to the left.

**Recommendation 7 – Case Road & Driveway 6 (#17)** – The following improvement is necessary to accommodate site access:

- This driveway on Case Road currently exists and serves the existing shopping center uses. The Project is to maintain the stop control on the eastbound approach and a shared left-through-right turn lane. The driveway will continue to allow for full turning movements (e.g., no turn restrictions) for passenger cars only.

**Recommendation 8 – Green Valley Parkway** – Green Valley Parkway is a north-south roadway located along the Project’s western frontage. Project to construct Green Valley Parkway at its ultimate half-width as a Secondary Arterial (128-foot right-of-way) from the Project’s northern boundary to Ethanac Road consistent with the City and Specific Plan’s standards. Project to provide an additional 12-feet of pavement on the west side of Green Valley Parkway in order to facilitate site access.

At Driveway 1, an interim trap right turn lane is to be constructed until the 2<sup>nd</sup> northbound through lane can be accommodated in the future with construction of receiving lanes north of the Project boundary. Until such time construction occurs, it is recommended that the pavement along the Project’s frontage on Green Valley Parkway, north of Driveway 1, is utilized with a single northbound through lane. Additionally, an interim turnaround at the northern project boundary is to be constructed to allow traffic and emergency vehicles the ability to turn around.

**Recommendation 9 – Ethanac Road** – Ethanac Road is an east-west roadway located along the Project’s southern boundary. Project to construct Ethanac Road at its ultimate half-width as an Expressway (184-foot right-of-way) from Green Valley Parkway to the Project’s eastern boundary consistent with the City and Specific Plan’s standards.

**Recommendation 10 – Watson Road** – Watson Road is an east-west roadway located along the Project’s northern boundary. Project to construct Watson Road at its ultimate half-width from the western Project boundary to Case Road consistent with the City and Specific Plan’s standards. Project to provide an additional 12-feet of pavement on the north side of Watson Road in order to facilitate site access.

**Recommendation 11 – Case Road** – Case Road is a north-south roadway located along the Project’s eastern boundary. Project to construct Case Road at its ultimate half-width as a Secondary Arterial (114.5-foot right-of-way) from Watson Road to the southern Project boundary consistent with the City and Specific Plan’s standards.

On-site traffic signing and striping should be implemented consistent with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard California Department of Transportation (Caltrans) and City of Perris sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

The Project shall be conditioned to prepare a drive-through queueing analysis for both Pad’s 2 & 3 once future tenants have been secured.

### 1.6.2 OFF-SITE RECOMMENDATIONS

A summary of the off-site intersection improvements is provided in Table 1-3. As shown in Table 1-3, the Project will construct or contribute payments towards the improvements identified, as discussed in Section 1.6.1 *Site Adjacent and Site Access Recommendations*. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fair share payments or payment of fees (if applicable) that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay fair share fees and participate in pre-existing fee programs consistent with the City's requirements (see Section 7 *Local and Regional Funding Mechanisms*). It should be noted that the payment of DIF and TUMF fees do not negate the responsibility of the Project Applicant to pay fair share contributions towards improvements necessary for development.

It should be noted that based on the City's guidelines, the Project would have a "direct" impact at Encanto Drive and Ethanac Road (#24). As such, the improvement to install a traffic signal would fall under construct obligation for the Project's responsibility. The intersection may be vacated by the Perris Towne Center project, in which case improvements would not be required. However, the Project Applicant should enter into an agreement with the City to fund the recommended traffic signal improvement in the event that the intersection is not eliminated.

Green Valley Parkway & Ethanac Road (#10) (on-site), Case Road & Mapes Road (#15) (off-site), and Case Road & Driveway 6 (#17) (on-site) have identified the installation of traffic signals as improvements. These intersections are anticipated to meet a traffic signal warrant but perform at an acceptable LOS under E+P conditions. As such, the Project responsibility has been identified as fair share. The decision to condition the Project to construct the improvements lies within the discretion of the City. Green Valley Parkway & Ethanac Road (#10) and Case Road & Mapes Road (#15) are anticipated to operate at a deficient LOS starting under EAC conditions. Case Road & Driveway 6 (#17) is anticipated to operate at an acceptable LOS under all scenarios. Therefore, the improvements at this intersection are added by request of the City and are not required based on the intersection operations analysis.

### 1.6.3 QUEUING ANALYSIS AT THE PROJECT DRIVEWAYS

A queuing analysis was conducted at the Project driveways and site adjacent intersections for EAPC (2026) traffic conditions to determine the turn pocket lengths necessary to accommodate 95<sup>th</sup> percentile queues. The analysis was conducted for the weekday AM and weekday PM peak hours. The results have been provided in Appendix 1.2 and a summary of the queuing analysis results for the recommended or available turn pockets is shown in Table 1-4. As shown in Table 1-4, no queuing issues are anticipated at the Project driveways or site adjacent intersections. The queuing analysis has additionally been used to determine the adequacy of the driveway spacing. The driveways are adequately spaced and are anticipated to maintain traffic flow and to prevent queuing deficiencies for incoming Project traffic. Per the County's Standard No. 114, a Secondary Highway allows for a minimum driveway spacing of 330 feet for full access. The Project driveway on Case Road, a Secondary Highway, has adequate spacing of greater than 600 feet. The driveway spacing is shown on Exhibit 1-8.

**TABLE 1-3: SUMMARY OF IMPROVEMENTS**

Intersection Location	Jurisdiction	Analysis Scenario				Improvements in DIF, TUMF, etc. <sup>1,2</sup>	Project Responsibility	Project Fair Share
		Existing (2024)	E+P	EAC (2026)	EAPC (2026)			
1 Goetz Rd. & Ethanac Rd.	Perris, Menifee	None	None	Add 2nd SBL	Same	No	Fair Share	8.3%
				Add 2nd WBL	Same	Yes (DIF)	Fees	
2 Murrieta Rd. & Green Valley Pkwy.	Perris	None	None	Install a traffic signal	Same	No	Fair Share	6.4%
3 Murrieta Rd. & Ethanac Rd.	Perris, Menifee	None	None	Add NB left turn lane	Same	Yes (DIF)	Fees	9.5%
				Add SB left turn lane	Same	Yes (DIF)	Fees	
				Add 2nd SB left turn lane	Same	Yes (DIF)	Fees	
				Add EB right turn lane	Same	No	Fair Share	
5 Evans Rd. & Ethanac Rd.	Perris, Menifee	None	None	Install a traffic signal	Same	No	Fair Share	9.9%
10 Green Valley Pkwy. & Ethanac Rd.	Perris, Menifee	None	Add EB left turn lane	None	Same as E+P	No	Construct	13.9%
			Install a traffic signal	Same	Yes (DIF)	Fees		
13 Case Rd. & Ellis Av.	Perris	None	None	Add NB left turn lane	Same	No	Fair Share	4.6%
				Add EB left turn lane	Same	No	Fair Share	
				Add EB right turn lane	Same	No	Fair Share	
				Add WB left turn lane	Same	No	Fair Share	
14 Murrieta Rd. & Case Rd.	Perris	None	None	Install a traffic signal	Same	No	Fair Share	5.2%
				Add EB through lane	Same	No	Fair Share	
				Add WB through lane	Same	No	Fair Share	
15 Case Rd. & Mapes Rd.	Perris	None	None	Install a traffic signal	Same	No	Fair Share	21.8%
				Add SB left turn lane	Same	No	Fair Share	
				Add 2nd SB left turn lane	Same	No	Fair Share	
16 Case Rd. & Watson Rd.	Perris	None	Add SB right turn lane	None	Same as E+P	No	Construct	--
17 Case Rd. & Driveway 6	Perris	None	Add SB right turn lane	None	Same as E+P	No	Construct	85.2%
				Install a traffic signal <sup>4</sup>	Same	No	Fair Share	
20 I-215 SB Ramps/SR-74 & Bonnie Dr.	Perris, Caltrans	None	None	Add 2nd NB left turn lane	Same	No	Fair Share	12.5%
				Add 2nd SB through lane	Same	No	Fair Share	
22 I-215 SB Ramps & Ethanac Rd.	Perris, Caltrans	None	None	Add 2nd EB through lane	Same	Yes (TUMF)	Fees	9.6%
				Add 2nd WB left turn lane	Same	No	Fair Share	
				Modify southbound approach to provide one left-turn, one right-turn, and one shared left-through-right turn lane	Same	No	Fair Share	
23 I-215 NB Ramps & Ethanac Rd.	Perris, Caltrans	None	None	Add 2nd EB through lane	Same	Yes (TUMF)	Fees	8.3%
				Add 2nd WB through lane	Same	Yes (TUMF)	Fees	
				Add 2nd EB left turn lane	Same	No	Fair Share	
24 Encanto Dr. & Ethanac Rd. <sup>3</sup>	Perris	Install a traffic signal	Same	Same	Same	No	Construct	3.8%
				Add 2nd EB through lane	Same	Yes (TUMF)	Fees	
				Add 2nd WB through lane	Same	Yes (TUMF)	Fees	
				Add EB right turn lane	Same	No	Fair Share	

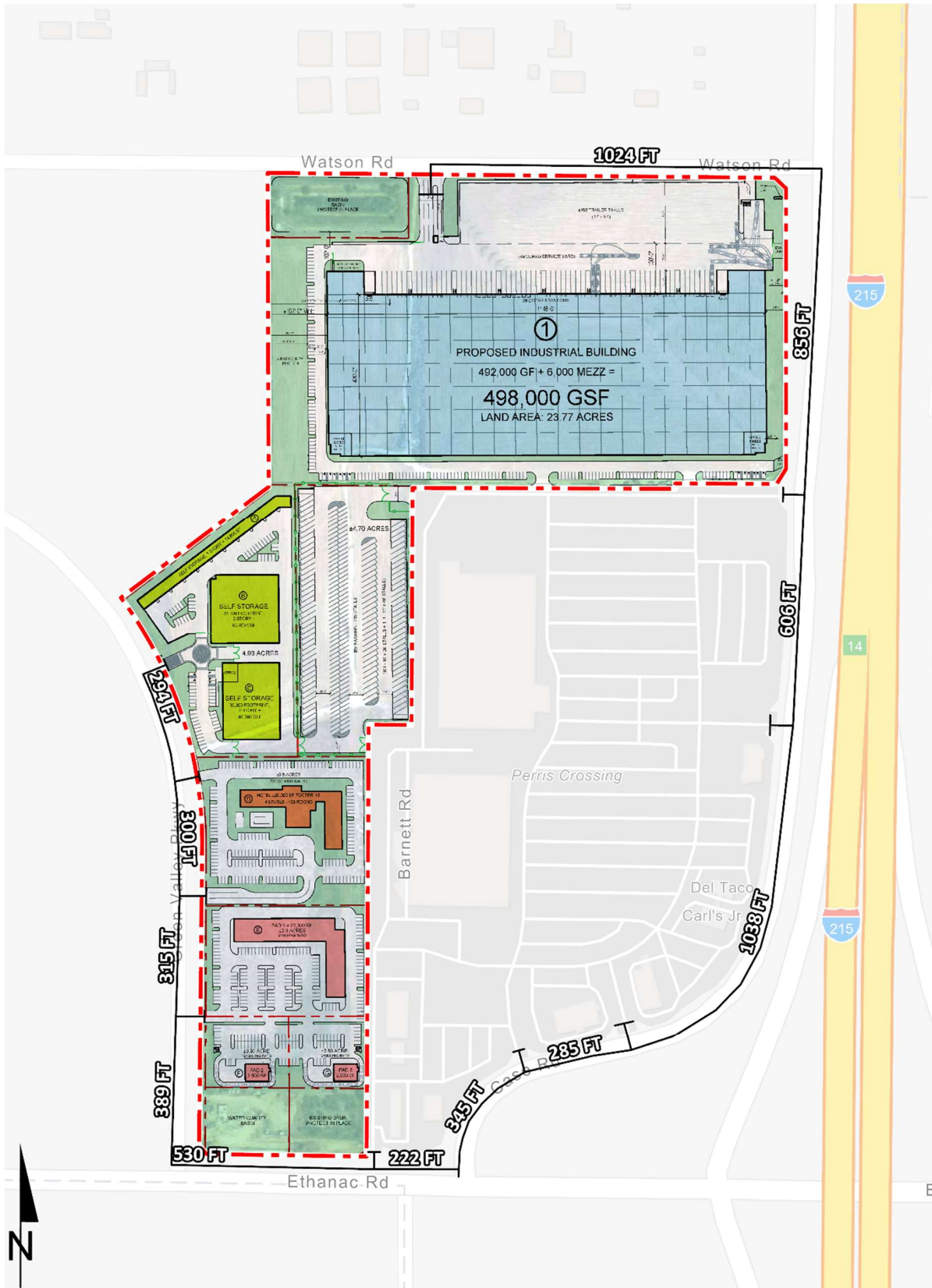
<sup>1</sup> Improvements included in regional/City DIF programs have been identified as such.

<sup>2</sup> Program improvements constructed by project may be eligible for fee credit. In lieu fee payment is at the discretion of the City.

<sup>3</sup> Improvements are only required if the intersection is not vacated by the Perris Towne Center Project.

<sup>4</sup> Traffic signal improvement included by request of the City. The intersection is anticipated to operate at an acceptable LOS as unsignalized and does not require signalization based on the intersection operations analysis.

EXHIBIT 1-8: DRIVEWAY SPACING



**TABLE 1-4: QUEUING ANALYSIS FOR SITE ADJACENT INTERSECTIONS**

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak	PM Peak	AM	PM
Green Valley Pkwy. & Driveway 3	SBL	150	0	0	Yes	Yes
Green Valley Pkwy. & Ethanac Rd.	EBL	175	165	164	Yes	Yes
Driveway 5 & Watson Rd.	WBL	150	6	0	Yes	Yes
Case Rd. & Watson Rd.	SBR	150	44	47	Yes	Yes
Case Rd. & Driveway 6	NBL	150	82	102	Yes	Yes
	SBR	100	73	69	Yes	Yes
	EBR	180	40	92	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

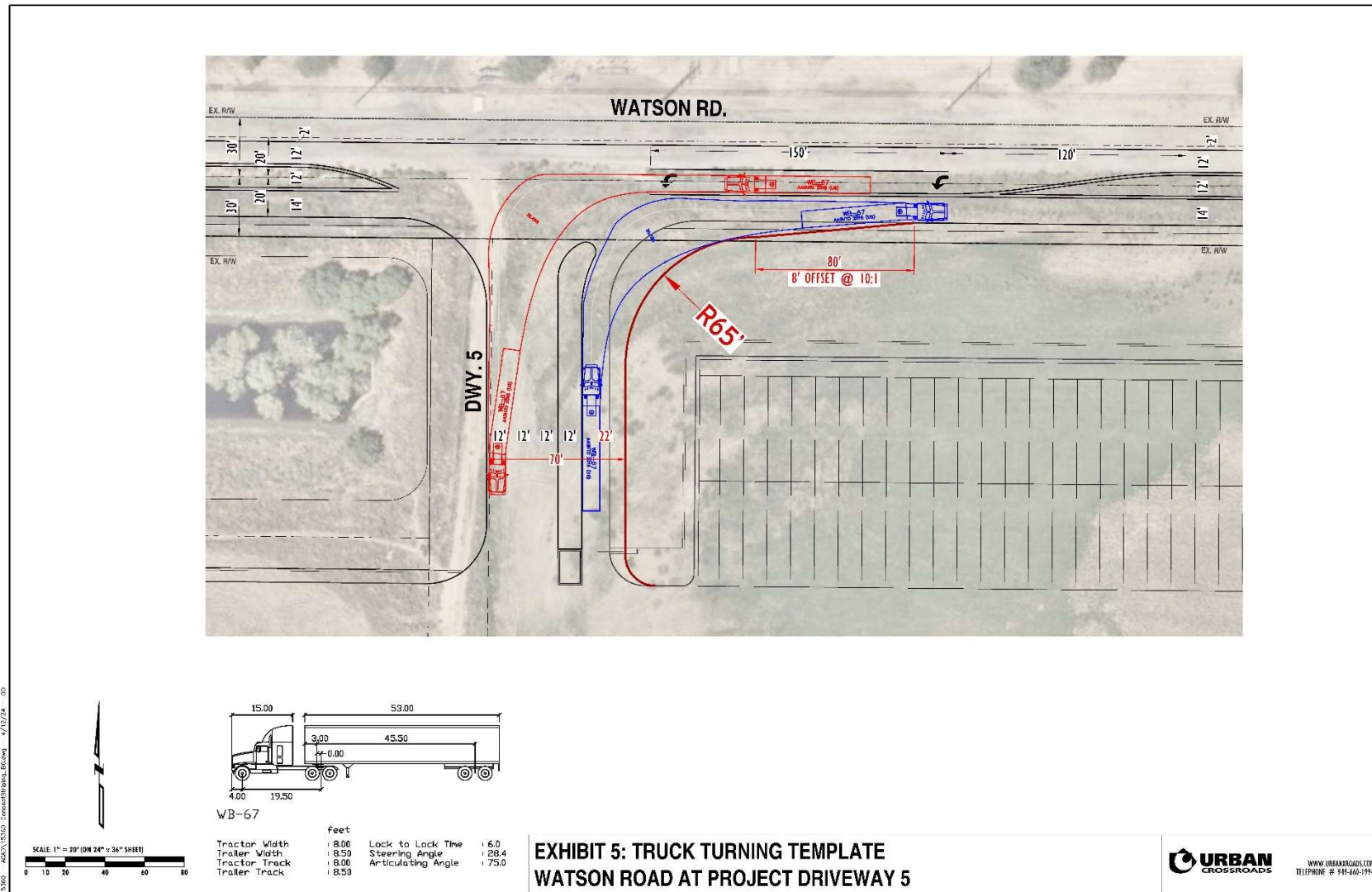
SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. The 95<sup>th</sup> percentile queue is derived from the average queue plus 1.65 standard deviations. The 95<sup>th</sup> percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many agencies utilize the 95<sup>th</sup> percentile queues for design purposes. A vehicle is considered queued whenever it is traveling at less than 10 feet/second. The random simulations generated by SimTraffic have been utilized to determine the 95<sup>th</sup> percentile queue lengths observed for each turn movement. A SimTraffic simulation has been recorded five (5) times, during the weekday AM and weekday PM peak hours, and has been seeded for 30-minute periods with 60-minute recording intervals.

## 1.7 TRUCK ACCESS AND CIRCULATION

Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at the Project driveways anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-9). As shown on Exhibit 1-9, Driveway 5 should be modified to a 65-foot curb radius on the southeast corner and Case Road & Watson Road should be modified to a 45-foot radius on the northwest corner in order to accommodate the egress of heavy trucks.



**EXHIBIT 1-9: TRUCK ACCESS (2 OF 2)**



## 2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Perris' Traffic Study Guidelines.

### 2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing a breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

### 2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6<sup>th</sup> Edition [Highway Capacity Manual](#) (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (4) The HCM uses different procedures depending on the type of intersection control.

#### 2.2.1 SIGNALIZED INTERSECTIONS

The City of Perris requires signalized intersection operations analysis based on the methodology described in the HCM. (4) Intersection LOS operations are based on an intersection's average control delay. Control delays include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 11) is utilized to analyze signalized intersections within the study area. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

**TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS**

Description	Average Control Delay (Seconds), $V/C \leq 1.0$	Level of Service, $V/C \leq 1.0^1$
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 6th Edition

<sup>1</sup> If V/C is greater than 1.0 then LOS is F per HCM.

The traffic modeling and signal timing optimization software package Synchro (Version 12) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g.,  $PHF = \frac{[Hourly Volume]}{[4 \times Peak 15\text{-minute Flow Rate}]}$ ). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour.

(4)

**2.2.2 UNSIGNALIZED INTERSECTIONS**

The City of Perris requires the operations of unsignalized intersections to be evaluated using the methodology described in the HCM. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop-controlled intersections, LOS is computed for the intersection as a whole (average delay).

**TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS**

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0 <sup>1</sup>
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 6th Edition

<sup>1</sup> If V/C is greater than 1.0 then LOS is F per HCM.

**2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY**

The term “signal warrants” refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the California Department of Transportation (Caltrans) California Manual on Uniform Traffic Control Devices (CA MUTCD) for all study area intersections. (5)

The signal warrant criteria for Existing conditions is based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The Caltrans CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (5) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing study area intersections for all analysis scenarios. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants have been used as posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants have been used where speeds exceed 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future ADT volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. A traffic signal warrant analysis was performed for the following study area intersection shown in Table 2-3:

**TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS**

#	Intersection
2	Murrieta Rd. & Green Valley Pkwy.
4	Murrieta Rd. & McLaughlin Rd.
5	Evans Rd. & Ethanac Rd.
8	Green Valley Pkwy. & Driveway 3
10	Green Valley Pkwy. & Ethanac Rd.
12	Driveway 5 & Watson Rd.
14	Murrieta Rd. & Case Rd.
15	Case Rd. & Mapes Rd.
16	Case Rd. & Watson Rd.
17	Case Rd. & Driveway 6
24	Encanto Dr. & Ethanac Rd.

Although unsignalized, the intersections of Green Valley Parkway & Driveway 1 (#6), Green Valley Parkway & Driveway 2 (#7), and Green Valley Parkway & Driveway 4 (#9) are proposed for right-in/right-out access only. As such, traffic signal warrants have not been evaluated for these locations due to the access restrictions and infeasibility of a signal installation at these locations. The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Conditions* and Section 6 *EAC and EAPC (2026) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

## 2.4 QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95<sup>th</sup> percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the I-215 Freeway at the SR-74 and Ethanac Road interchanges. Specifically, the off-ramp queuing analysis is utilized to identify any potential queuing and “spill back” onto the I-215 Freeway mainline from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95<sup>th</sup> percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95<sup>th</sup> percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95<sup>th</sup> percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95<sup>th</sup> percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95<sup>th</sup> percentile queue is derived from the average queue plus 1.65 standard deviations. The 95<sup>th</sup> percentile queue is not necessarily ever observed, it is simply based on statistical calculations.

## 2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Minimum Acceptable LOS and associated definitions of intersection deficiencies have been obtained from each of the applicable surrounding jurisdictions.

### 2.4.1 CITY OF PERRIS

The definition of an intersection deficiency has been obtained from the City of Perris' General Plan. LOS D along all City maintained roads (including intersections) and LOS D along I-215 and SR-74 (including intersections with local streets and roads). An exception to the local road standard is LOS E, at intersections of any Arterials and Expressways with SR-74, the Ramona-Cajalco Expressway, or at I-215 Freeway ramps. (6)

LOS E may be allowed within the boundaries of the Downtown Specific Plan Area to the extent that it would support transit-oriented development and walkable communities. Increased congestion in this area will facilitate an increase in transit ridership and encourage development of a complementary mix of land uses within a comfortable walking distance from light rail stations.

### 2.4.2 CITY OF MENIFEE

Per Policy C-1.2 of the City of Menifee General Plan, the following LOS will be utilized for study area intersections located within the City:

*Require development to mitigate its traffic impacts and achieve a peak hour Level of Service (LOS) D or better at intersections, except at constrained intersections at close proximity to the I-215 where LOS E may be permitted.*

Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis. (7)

## 2.6 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. The following deficiency criteria has been utilized for the City of Perris (along with the City of Menifee). To determine whether the addition of project-related traffic at a study intersection would result in a deficiency, the following will be utilized:

- A project-related deficiency is considered direct and significant when a study intersection operates at an acceptable LOS for existing conditions (without the project) and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable LOS for E+P traffic conditions.
- A project-related deficiency is considered direct and significant when a study intersection operates at an unacceptable LOS for existing conditions (without the project) and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more.
- A cumulative deficiency is considered direct and significant when a study intersection is forecast to operate at an acceptable LOS without the project and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable LOS for E+P traffic conditions.
- A cumulative deficiency is considered indirect and significant when a study intersection is forecast to operate at an unacceptable LOS and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more.

## 2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future (EAPC) traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \frac{\text{Project AM/PM Traffic}}{(\text{EAPC (2026) AM/PM Total Traffic} - \text{Existing (2024) AM/PM Traffic})}$$

The project fair share percentage has been calculated for both the AM peak hour and PM peak hour using PCE traffic volumes and the highest of the two has been selected. The Project fair share contribution calculations are presented in Section 7 *Local and Regional Funding Mechanisms* of this TA.

### 3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Perris General Plan Circulation Network and a review of existing peak hour intersection operations, traffic signal warrants, and off-ramp queuing analyses.

#### 3.1 EXISTING CIRCULATION NETWORK

Pursuant to consultation and feedback from City of Perris staff (Appendix 1.1), the study area includes a total of 24 existing and future intersections as shown previously on Exhibit 1-3. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

#### 3.2 CITY OF PERRIS GENERAL PLAN AND GVSP CIRCULATION ELEMENTS

As noted previously, the Project site is located within the GVSP area in the City of Perris. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Perris General Plan and GVSP Circulation Elements, are described subsequently. Exhibit 3-2 shows the City of Perris General Plan Circulation Element and Exhibit 3-3 describes the City of Perris General Plan roadway cross-sections. Exhibit 3-4 describes the GVSP Circulation Plan and Exhibit 3-5 describes the GVSP roadway cross-sections. The study area roadways that lie within the GVSP area are described below:

**Expressways** can accommodate six-to-eight travel lines with 184-foot right-of-way. These facilities primarily serve through traffic to which access from abutting properties shall be kept at a minimum. The following roadway is classified as an Expressway within the study area:

- Ethanac Road

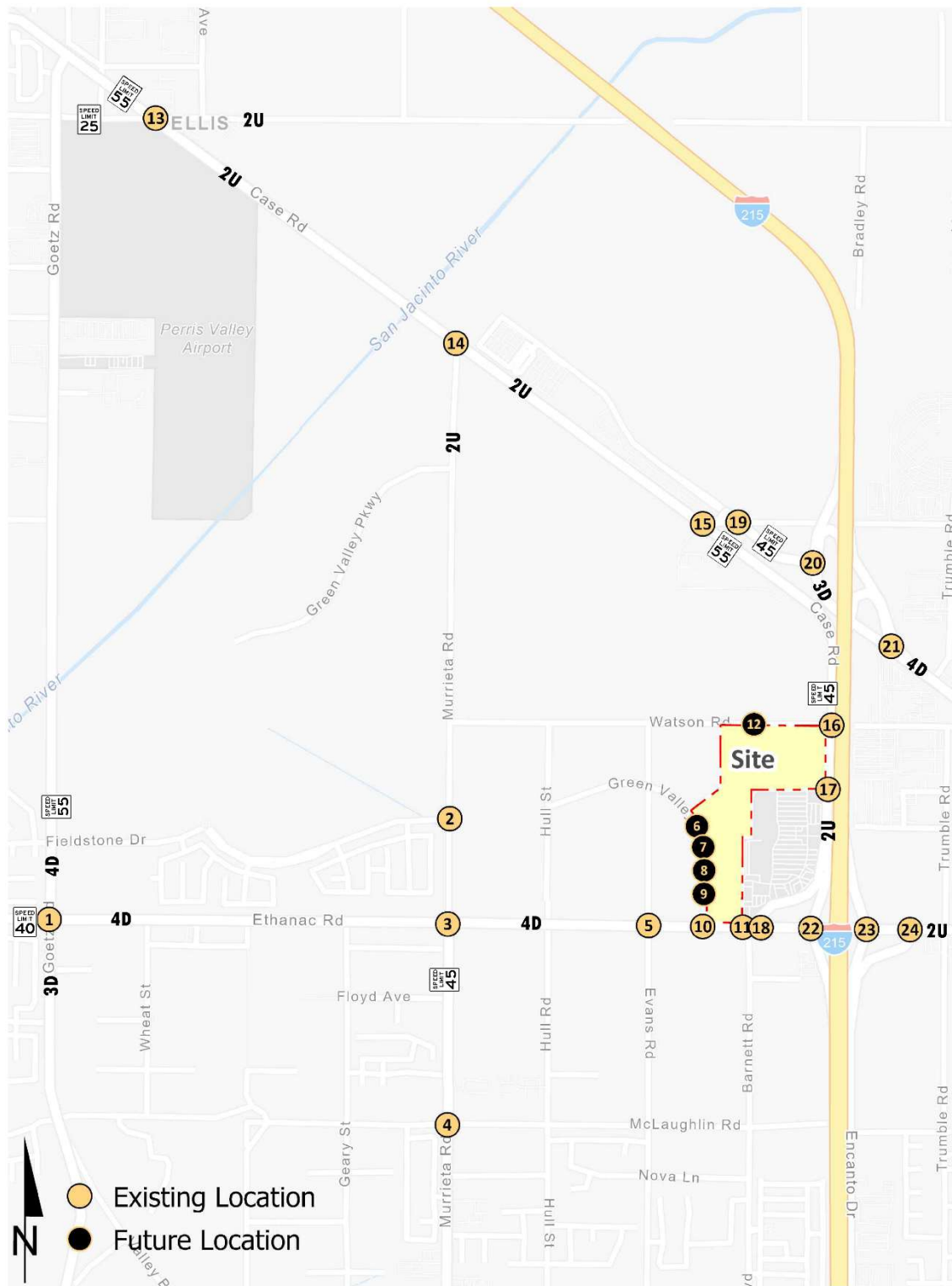
**Arterials** are designed to accommodate six travel lanes with a raised median, within a 136-foot right-of-way. The following study area roadways within the GVSP area are classified as Arterials:

- Goetz Road
- Ellis Avenue

**Secondary Arterials** are designed to accommodate four-to-six travel lanes with a raised or painted median, within a varying right-of-way. The following study area roadways within the GVSP area are classified as Secondary Arterials:

- Case Road, between Watson Road and Ethanac Road (114.5-foot right-of-way)
- Murrieta Road (136-foot right-of-way)
- Green Valley Parkway (128-foot right-of-way)


**EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (1 OF 2)**



**4** = Number of Lanes

**D** = Divided

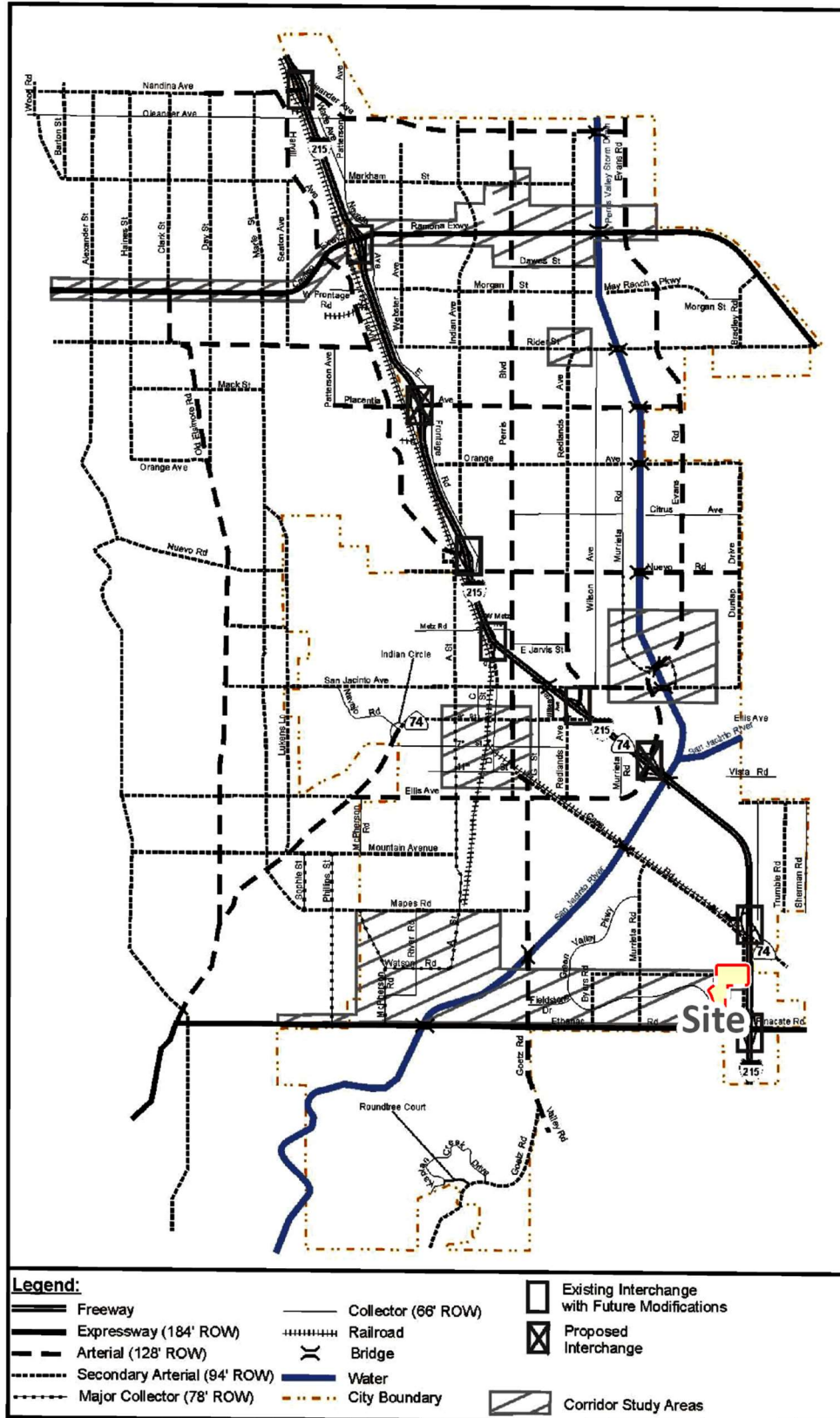
**U** = Undivided

 = Speed Limit (MPH)

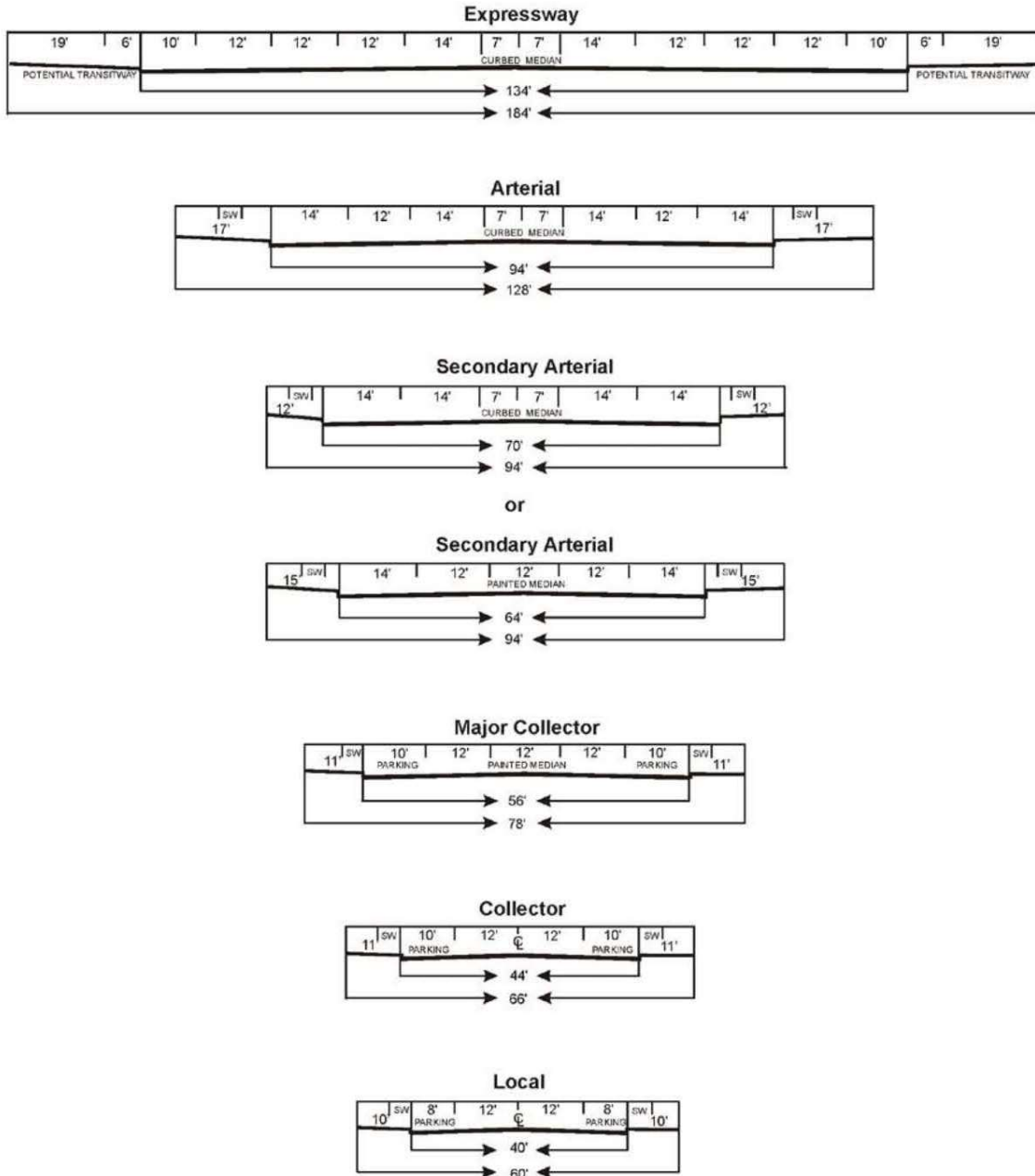
**EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (2 OF 2)**

<b>1</b>	<i>Goetz Rd. &amp; Ethanac Rd.</i>	<b>2</b>	<i>Murrieta Rd. &amp; Green Valley Pkwy.</i>	<b>3</b>	<i>Murrieta Rd. &amp; Ethanac Rd.</i>	<b>4</b>	<i>Murrieta Rd. &amp; McLaughlin Rd.</i>	<b>5</b>	<i>Evans Rd. &amp; Ethanac Rd.</i>
<b>6</b>	<i>Green Valley Pkwy. &amp; Driveway 1</i>	<b>7</b>	<i>Green Valley Pkwy. &amp; Driveway 2</i>	<b>8</b>	<i>Green Valley Pkwy. &amp; Driveway 3</i>	<b>9</b>	<i>Green Valley Pkwy. &amp; Driveway 4</i>	<b>10</b> <i>Green Valley Pkwy. &amp; Ethanac Rd.</i>	
Future Intersection		Future Intersection		Future Intersection		Future Intersection		Future Intersection	
<b>11</b>	<i>Barrett Rd. &amp; Ethanac Rd.</i>	<b>12</b>	<i>Driveway 5 &amp; Watson Rd.</i>	<b>13</b>	<i>Case Rd. &amp; Ellis Av.</i>	<b>14</b>	<i>Murrieta Rd. &amp; Case Rd.</i>	<b>15</b> <i>Case Rd. &amp; Mapes Rd.</i>	
		Future Intersection							
<b>16</b>	<i>Case Rd. &amp; Watson Rd.</i>	<b>17</b>	<i>Case Rd. &amp; Driveway 6</i>	<b>18</b>	<i>Case Rd. &amp; Ethanac Rd.</i>	<b>19</b>	<i>Bonnie Dr. &amp; Mapes Rd.</i>	<b>20</b> <i>I-215 SB Ramps/ SR-74 &amp; Bonnie Dr.</i>	
<b>21</b>	<i>I-215 NB Ramps &amp; SR-74</i>	<b>22</b>	<i>I-215 SB Ramps &amp; Ethanac Rd.</i>	<b>23</b>	<i>I-215 NB Ramps &amp; Ethanac Rd.</i>	<b>24</b> <i>Encanto Dr. &amp; Ethanac Rd.</i>			
<ul style="list-style-type: none"> <li> = Traffic Signal</li> <li> = All Way Stop</li> <li> = Stop Sign</li> <li> = Traffic Lane</li> <li> = Free Right Turn</li> </ul>									

EXHIBIT 3-2: CITY OF PERRIS GENERAL PLAN CIRCULATION ELEMENT



**EXHIBIT 3-3: CITY OF PERRIS GENERAL PLAN ROADWAY CROSS-SECTIONS**



Specific details for each cross-section follow in Figures 4.1 A - 4.1 F

**Legend**

- SW Sidewalk or Trail (at least 4 feet)
- PARKING Parking or Bike Lane
- PAINTED MEDIAN Center Median and/or Continuous Left Turning Lane
- CURBED MEDIAN Landscaped Center Median

EXHIBIT 3-4: GVSP CIRCULATION ELEMENT

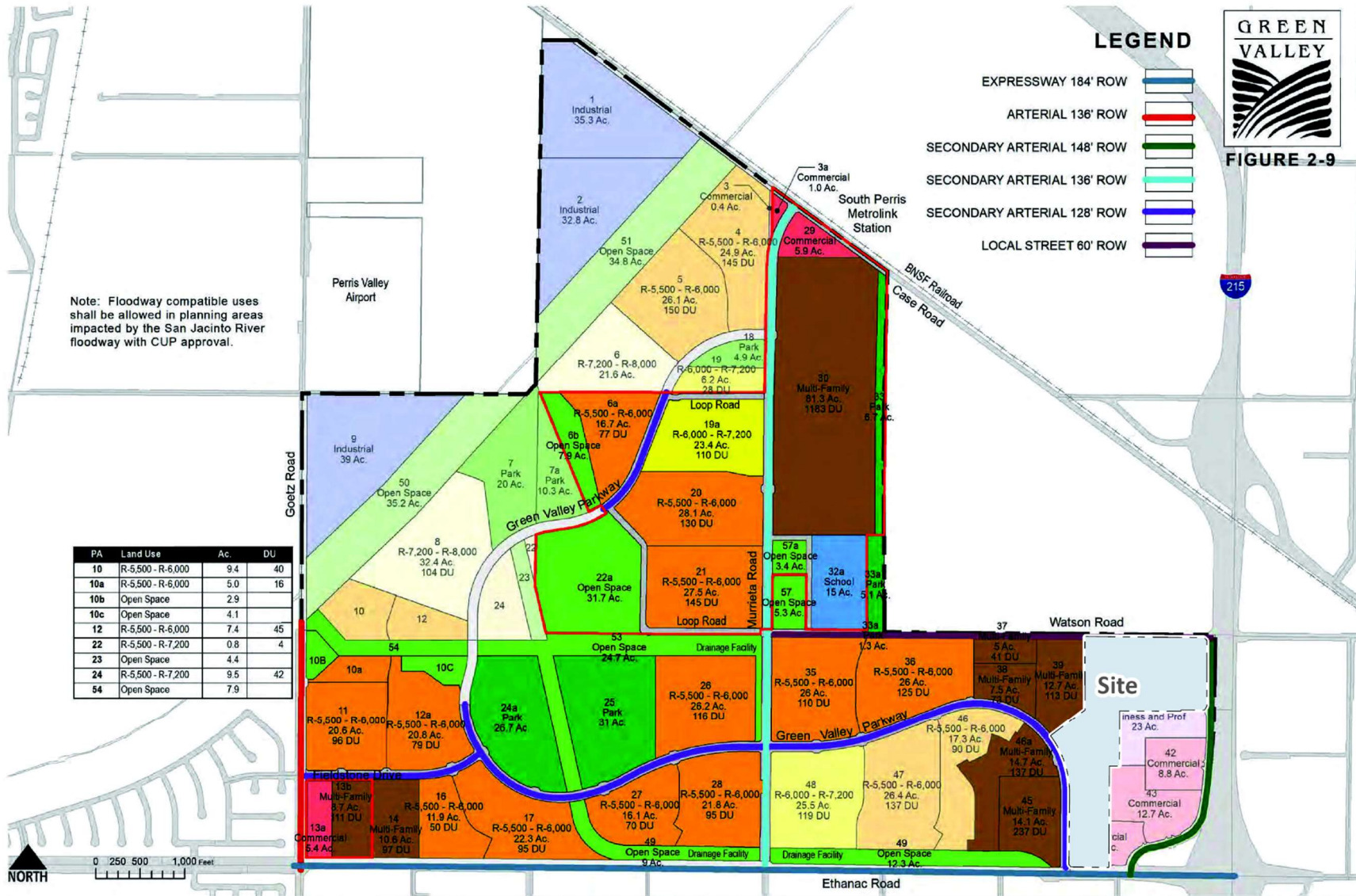
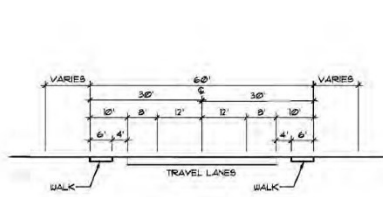


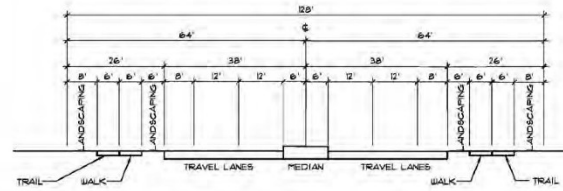
EXHIBIT 3-5: GVSP ROADWAY CROSS-SECTIONS



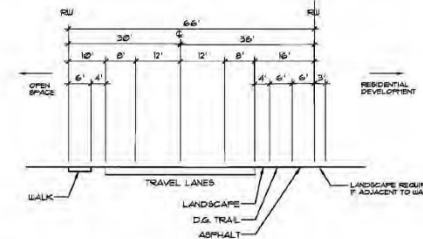
FIGURE 2-11



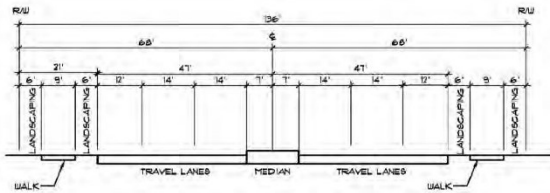
**Local Street (60')**  
Watson Road



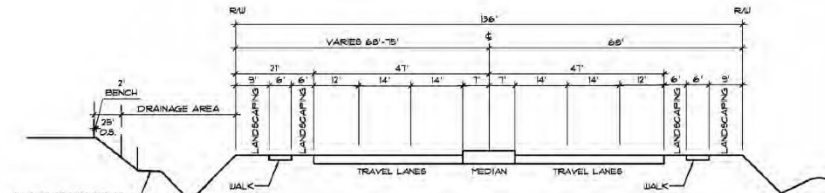
**Secondary Arterial (128')**  
Fieldstone Drive, Green Valley Parkway



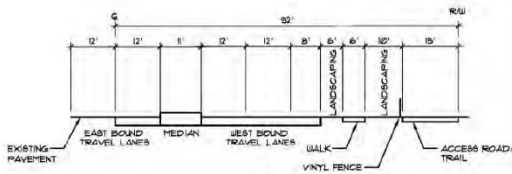
**Loop Road (66')**



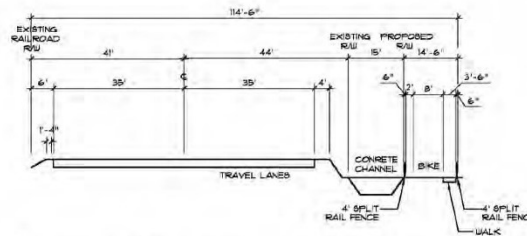
**Secondary Arterial (136')**  
Murrieta Road



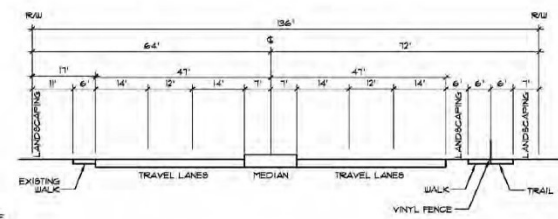
**Secondary Arterial (136')**  
Adjacent to Drainage Channel  
Murrieta Road



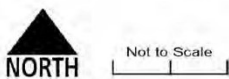
**Expressway (184' Full Width)**  
Ethanac Road



**Secondary Arterial (114.5' Full Width)**  
Case Road



**Arterial (136')**  
Goetz Road



**Local Streets** can accommodate two travel lanes separated by a painted median with a 60-foot right-of-way. These facilities provide access to residential land uses, or commercial and industrial land uses. The following roadway is classified as a Local Street within the study area:

- Watson Road

Study area roadways, not yet described, within the City of Perris, that do not lie within the GVSP area are described below:

**Secondary Arterials**, not within the GVSP area, are designed to accommodate four travel lanes with a raised or painted median, within a 94-foot right-of-way. The following study area roadways within the City of Perris are classified as Secondary Arterials:

- Case Road (excluding areas within the GVSP area)
- Murrieta Road, south of Ethanac Road

### 3.3 PEDESTRIAN FACILITIES

Field observations indicate nominal pedestrian activity within the study area. As shown on Exhibit 3-6, pedestrian facilities are built out along portions of Ethanac Road and Case Road.

### 3.4 TRUCK ROUTES

The City of Perris truck routes are shown on Exhibit 3-7. The Municipal Code prohibits trucks on certain City roadways due to weight restrictions. Truck routes for the proposed Project have been determined based on discussions with City staff. These truck routes serve both the proposed Project and future cumulative development projects throughout the study area. Sensitive land uses have also been taken into consideration as part of determining the best routes for future trucks.

### 3.5 EXISTING TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2022, November 2022, and December 2023 when local schools were in session and operating on a typical bell schedule. The following peak hours were selected for analysis:

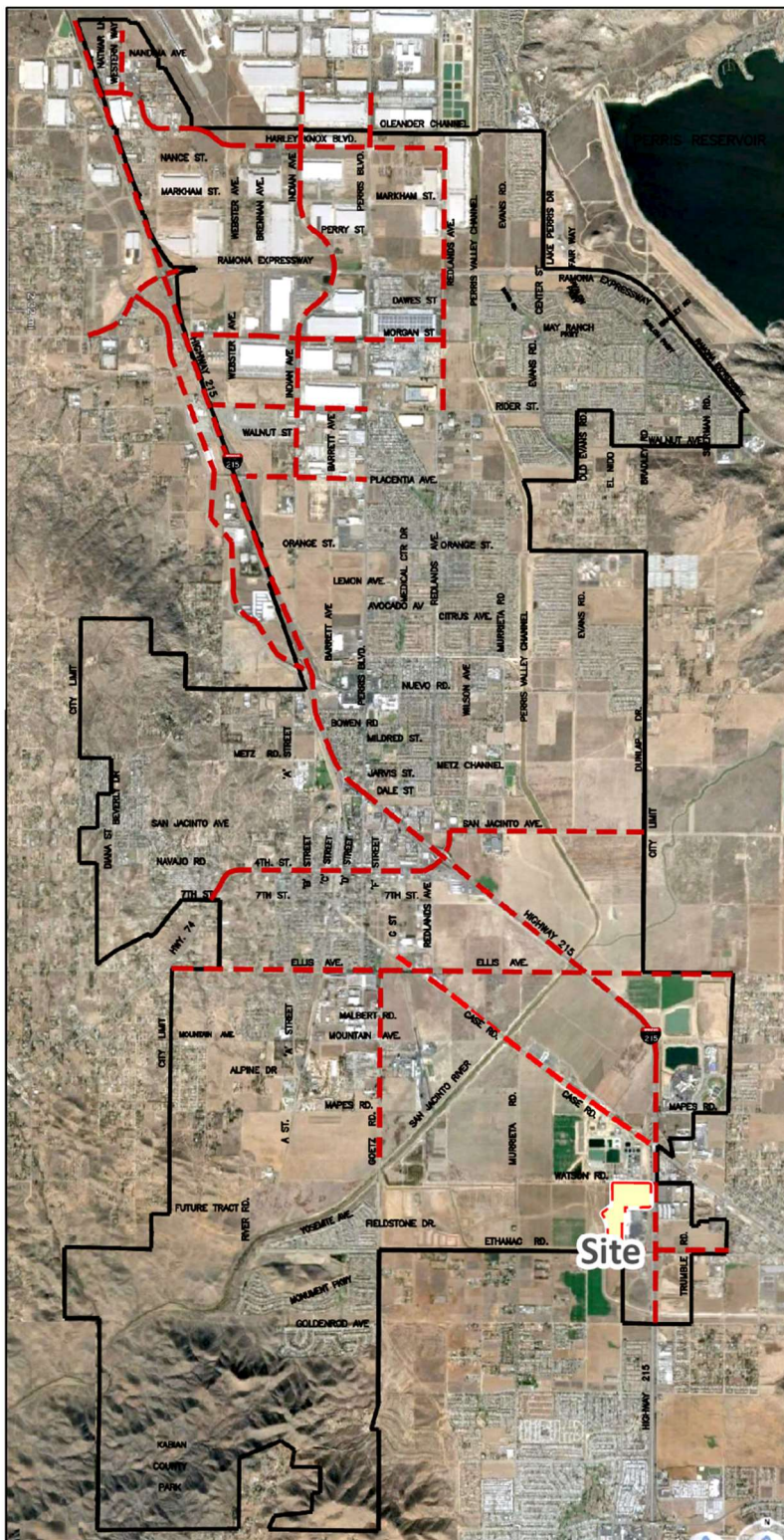
- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

A growth rate has been applied to collected counts to reflect a 2024 baseline for Existing (2024) conditions. The 2024 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

EXHIBIT 3-6: EXISTING PEDESTRIAN FACILITIES



EXHIBIT 3-7: CITY OF PERRIS TRUCK ROUTES



**LEGEND:**

- - - TRUCK ROUTES
- PERRIS CITY LIMITS

Existing weekday ADT volumes are shown on Exhibit 3-8. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 13.75 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.27 percent. As such, the above equation utilizing a factor of 13.75 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.27 percent (i.e.,  $1/0.0727 = 13.75$ ) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes, in actual vehicles, are also shown on Exhibit 3-8.

### 3.6 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that the study area intersections are currently operating at an acceptable LOS during the peak hours conditions with the exception of the following intersection:

- Encanto Drive & Ethanac Road (#24) – LOS F AM and PM peak hours

The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

### 3.7 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The following unsignalized study area intersection currently warrants a traffic signal for Existing traffic conditions:

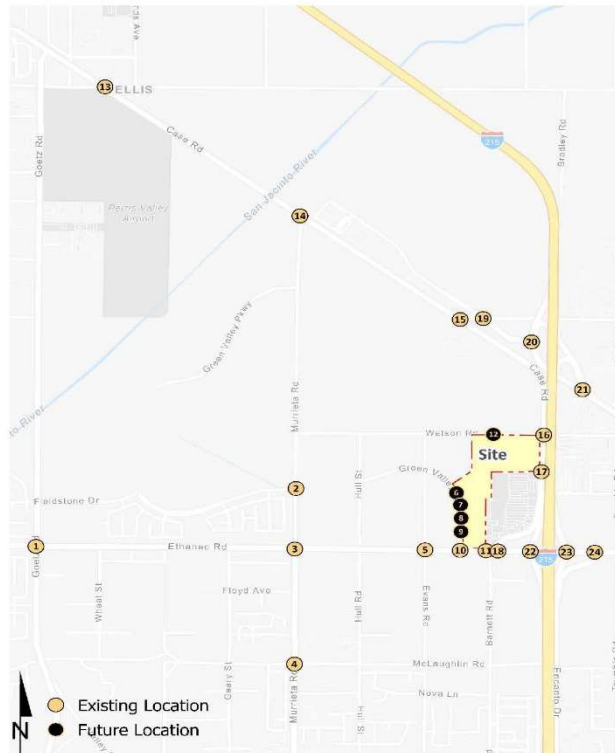
- Encanto Drive & Ethanac Road (#24)

Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

### 3.8 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway at SR-74 and Ethanac Road interchanges. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows. However, field observations indicate the southbound left turning vehicles would not all clear in a single cycle for up to one to two cycles during the peak hours. Worksheets for Existing (2024) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

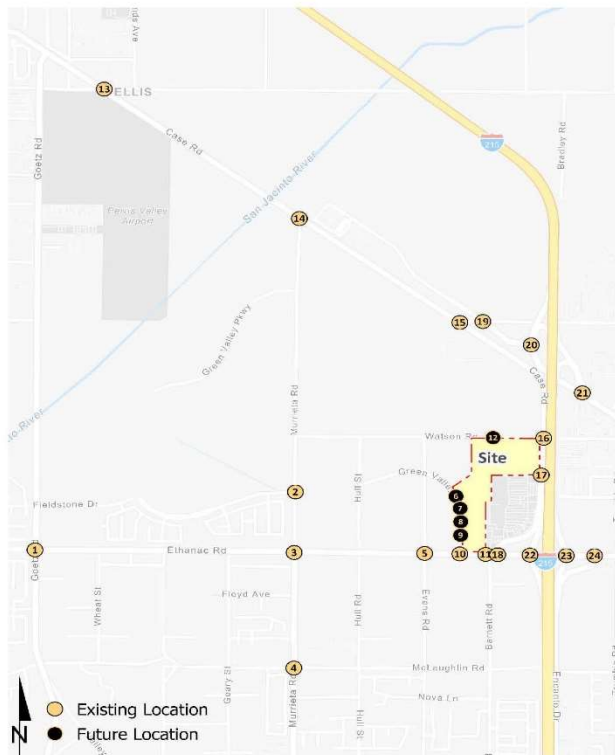
EXHIBIT 3-8: EXISTING (2024) TRAFFIC VOLUMES (ACTUAL VEHICLES) (1 OF 2)



1	2	3	4
<b>Goetz Rd. &amp; Ethanac Rd.</b> 12,550 14(29) 116(241) 243(212) 62(77) 179(285) 23(15) 104(53) 5(4) 1(1) 283(112) 390(203) 15,600 11,650 2,450	<b>Murrieta Rd. &amp; Green Valley Pkwy.</b> 3,650 15(33) 63(111) 56(30) 95(57) 51(68) 106(91) 4,500	<b>Murrieta Rd. &amp; Ethanac Rd.</b> 3,950 3(6) 64(110) 91(51) 56(74) 342(523) 117(161) 3(3) 681(464) 56(123) 64(83) 98(82) 104(143) 19,450 9,650 16,550	<b>Murrieta Rd. &amp; McLaughlin Rd.</b> 9,400 4(4) 220(361) 12(14) 12(5) 0(1) 6(6) 2(2) 235(296) 5(6) 450 9,250
5	6	7	8
<b>Evans Rd. &amp; Ethanac Rd.</b> 19,550 581(756) 0(2) 944(662) 1(0) 1(1) 19,500 Nominal	<b>Green Valley Pkwy. &amp; Driveway 1</b> 2,600	<b>Green Valley Pkwy. &amp; Driveway 2</b> 250	<b>Green Valley Pkwy. &amp; Driveway 3</b> 9,250
9	10	11	12
<b>Green Valley Pkwy. &amp; Driveway 4</b> 19,550	<b>Green Valley Pkwy. &amp; Ethanac Rd.</b> 19,550 581(758) 945(662)	<b>Barrett Rd. &amp; Ethanac Rd.</b> 22,600 566(737) 99(149) 908(632) 36(30) 15(21) 170(125) 4,500	<b>Driveway 5 &amp; Watson Rd.</b> 1(0)

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

EXHIBIT 3-8: EXISTING (2024) TRAFFIC VOLUMES (ACTUAL VEHICLES) (2 OF 2)



<p><b>13</b> Case Rd. &amp; Ellis Av.</p> <p>9,650</p> <p>4,700</p> <p>198(304) ← 147(83) ↘ 111(119) ↑ 13(0) ← 36(92) ↗</p> <p>6(1) → 2(1) ↓</p> <p>233(240) ↑ 76(68) ↗</p> <p>Nominal</p> <p>8,350</p>	<p><b>14</b> Murrieta Rd. &amp; Case Rd.</p> <p>7,150</p> <p>198(232) ← 22(23) ↗</p> <p>185(282) → 46(111) ↓</p> <p>108(84) ↗ 8(15) ↘</p> <p>5,050</p>	<p><b>15</b> Case Rd. &amp; Mapes Rd.</p> <p>7,500</p> <p>4,200</p> <p>200(174) ← 1(0) ↓ 89(70) ↘</p> <p>46(81) ↑ 67(85) ←</p> <p>121(248) ↓ 76(87) →</p> <p>0(1) ↗ 1(1) ↑</p> <p>Nominal</p> <p>7,750</p>	<p><b>16</b> Case Rd. &amp; Watson Rd.</p> <p>5,050</p> <p>1(0) ← 172(163) ↓</p> <p>1(0) ↓</p> <p>93(206) ↑</p> <p>5,050</p>
<p><b>17</b> Case Rd. &amp; Driveway 6</p> <p>5,050</p> <p>69(65) ↓ 102(98) ↓</p> <p>38(105) ↓ 10(24) ↓</p> <p>12(15) ↗ 55(101) ↑</p> <p>2,900</p>	<p><b>18</b> Case Rd. &amp; Ethanac Rd.</p> <p>17,400</p> <p>27,000</p> <p>102(202) ↓ 304(484) ↘</p> <p>370(456) ↑ 563(684) ←</p> <p>170(204) ↓ 908(553) →</p> <p>22,600</p>	<p><b>19</b> Bonnie Dr. &amp; Mapes Rd.</p> <p>7,500</p> <p>13(3) ← 282(238) ↗</p> <p>6(10) → 7(6) ↓</p> <p>1(4) ↗</p> <p>168(329) ↗</p> <p>300</p>	<p><b>20</b> I-215 SB Ramps/SR-74 &amp; Bonnie Dr.</p> <p>15,900</p> <p>34(20) ↓ 541(848) ↓</p> <p>28(31) ↓</p> <p>146(305) ↓</p> <p>261(220) ↑ 406(328) ↑</p> <p>6,250</p> <p>22,100</p>
<p><b>21</b> I-215 NB Ramps &amp; SR-74</p> <p>11,900</p> <p>32,700</p> <p>12(31) ↓ 169(250) ↓</p> <p>11(19) ↓ 676(1134) →</p> <p>857(620) ↑ 656(517) ←</p> <p>22,100</p>	<p><b>22</b> I-215 SB Ramps &amp; Ethanac Rd.</p> <p>7,650</p> <p>24,300</p> <p>229(945) ↓ 1(0) ↓ 128(210) ↓</p> <p>0(2) ↑ 704(796) ← 77(124) ↗</p> <p>725(635) → 487(403) ↓</p> <p>0(1) ↗</p> <p>7,250</p>	<p><b>23</b> I-215 NB Ramps &amp; Ethanac Rd.</p> <p>6,750</p> <p>20,500</p> <p>231(217) ↑ 520(544) ←</p> <p>218(270) ↗ 635(576) →</p> <p>261(377) ↗ 3(3) ↑ 128(152) ↗</p> <p>24,300</p>	<p><b>24</b> Encanto Dr. &amp; Ethanac Rd.</p> <p>6,300</p> <p>22,650</p> <p>72(16) ↓ 272(64) ↓ 182(174) ↓</p> <p>27(32) ↓ 371(620) → 366(77) ↓</p> <p>48(89) ↑ 389(598) ↑ 180(72) ↗</p> <p>289(146) ↗ 201(83) ↑ 119(93) ↗</p> <p>20,500</p> <p>7,350</p>

##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

**TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2024) CONDITIONS**

#	Intersection	Traffic Control <sup>1</sup>	Delay <sup>2</sup> (secs.)		Level of Service	
			AM	PM	AM	PM
1	Goetz Rd. & Ethanac Rd.	TS	26.6	30.4	C	C
2	Murrieta Rd. & Green Valley Pkwy.	CSS	10.8	11.3	B	B
3	Murrieta Rd. & Ethanac Rd.	TS	16.8	14.6	B	B
4	Murrieta Rd. & McLaughlin Rd.	CSS	12.8	13.7	B	B
5	Evans Rd. & Ethanac Rd.	CSS	12.1	10.7	B	B
6	Green Valley Pkwy. & Driveway 1		Future Intersection			
7	Green Valley Pkwy. & Driveway 2		Future Intersection			
8	Green Valley Pkwy. & Driveway 3		Future Intersection			
9	Green Valley Pkwy. & Driveway 4		Future Intersection			
10	Green Valley Pkwy. & Ethanac Rd.		Future Intersection			
11	Barrett Rd. & Ethanac Rd.	TS	9.8	8.7	A	A
12	Driveway 5 & Watson Rd.		Future Intersection			
13	Case Rd. & Ellis Av.	TS	27.0	15.1	C	B
14	Murrieta Rd. & Case Rd.	AWS	10.1	11.2	B	B
15	Case Rd. & Mapes Rd.	AWS	10.1	11.9	B	B
16	Case Rd. & Watson Rd.	CSS	10.1	0.0	B	A
17	Case Rd. & Driveway 6	CSS	10.0	10.9	B	B
18	Case Rd. & Ethanac Rd.	TS	10.2	14.8	B	B
19	Bonnie Dr. & Mapes Rd.	TS	13.3	14.2	B	B
20	I-215 SB Ramps/SR-74 & Bonnie Dr.	TS	12.7	18.6	B	B
21	I-215 NB Ramps & SR-74	TS	7.8	9.4	A	A
22	I-215 SB Ramps & Ethanac Rd.	TS	16.8	20.0	B	C
23	I-215 NB Ramps & Ethanac Rd.	TS	27.3	47.1	C	D
24	Encanto Dr. & Ethanac Rd.	CSS	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>

\* **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-Way Stop

<sup>2</sup> Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

**TABLE 3-2: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS**

# Intersection	Movement	Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM
20 I-215 SB Ramps/SR-74 & Bonnie Dr.	SBT	1,445	499	813	Yes	Yes
	SBR	155	30	17	Yes	Yes
21 I-215 NB Ramps & SR-74	SBL/R	1,465	112	201	Yes	Yes
22 I-215 SB Ramps & Ethanac Rd.	SBT	1,375	143	207	Yes	Yes
	SBR	240	67	199	Yes	Yes
23 I-215 NB Ramps & Ethanac Rd.	NBL/T	1,325	311 <sup>2</sup>	469 <sup>2</sup>	Yes	Yes
	NBR	270	49	51	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

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## 4 PROJECTED FUTURE TRAFFIC

The Project is proposed to consist of the following uses as part of the Project within PAs 40 through 44 for the GVSP:

- 498,000 square feet of industrial use;
- 211,900 square feet of self-storage use (17,900-square-foot single story building, 96,000-square-foot two-story building, and 98,000-square-foot two-story building) plus covered trailer parking on 2.75 acres for 84 covered recreational vehicle (RV) parking stalls and 131 uncovered RV parking stalls;
- 32,600 square feet of general commercial use (27,000-square-foot building for retail and restaurants and two 2,800-square-foot fast-food with drive-through restaurant pads) (note that the 319,000 square feet of general commercial use that currently exists in PAs 42, 43, and 44 is not included); and
- 20,000-square-foot 4-story hotel (128-keys).

Access to the proposed self-storage, hotel, and commercial retail uses will be accommodated off Green Valley Parkway, while access to the proposed industrial use will be accommodated on Watson Road and Case Road. All access points are assumed to be restricted to right-in/right-out access only along Green Valley Parkway with the exception of Driveway 3 which would allow for full turning movements (e.g., no turn restrictions). Driveway 3 is proposed to align with the future driveway for TTM No. 37818 which assumes a break in the median along Green Valley Parkway to accommodate vehicle turns. Driveway 5 on Watson Road allows for left-in/right-out access and is intended to serve truck traffic for the Project's industrial use. The land uses fronting Green Valley Parkway will also have reciprocal access to the adjacent existing shopping center (including Driveway 6 which is the northern-most intersection of the existing shopping center on Case Road.

### 4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the ITE Trip Generation Manual (11<sup>th</sup> Edition, 2021) (2) were used.

For purposes of this analysis, the following land use codes and vehicle mixes have been utilized for the Project within PAs 40, 41, 42, 43, and 44:

- High-Cube Fulfillment Center Warehouse (ITE Land Use Code 155) has been used to derive site specific trip generation estimates for up to 498,000 square feet of the proposed Project. The ITE Trip Generation Manual has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). As defined by ITE, a high-cube warehouse is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. A typical high-cube warehouse has a high level of on-site automation and logistics management. The automation and logistics enable highly-efficient processing of goods through the high-cube warehouse. The ITE Trip Generation Manual has two subcategories for the High-Cube Fulfillment Center use: sort and non-sort. ITE describes a sort facility as a fulfillment center that ships out smaller items, requiring extensive sorting, typically by manual

means. In comparison, a non-sort facility is a fulfillment center that ships large box items that are processed primarily with automation rather than through manual means. Some limited assembly and repackaging may occur within the facility. In an effort to conduct a conservative assessment for the speculative warehouse building, a sort facility has been assumed for the purposes of calculating trip generation for the proposed Project. The vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

- ITE Land Use code 151 (Mini-Warehouse) has been used to derive the site-specific trip generation for 211,900 square feet of self-storage use (17,900-square-foot single story building, 96,000-square-foot two-story building, and 98,000 square foot two-story building) plus covered trailer parking on 2.75 acres for 84 covered RV parking stalls and 131 uncovered RV parking stalls.
- ITE Land Use code 310 (Hotel) has been used to derive the site-specific trip generation for the 20,000-square-foot, 4-story hotel (128-keys).
- ITE Land Use Codes 932 (High Turnover Sit-Down Restaurant) and 934 (Fast-Food Restaurant with Drive-Thru Window) were used to derive the site-specific trip generation for 32,600 square feet of general commercial use (27,000-square-foot building for retail, restaurants, and two 2,800-square-foot fast-food with drive-through restaurant pads).

Trip generation rates for the proposed uses are summarized in Table 4-1. As noted in Table 4-1, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips between passenger cars and trucks. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks.

Internal capture is a percentage reduction that can be applied to the trip generation estimates for individual land uses to account for trips internal to the site (trips that travel between uses without leaving the site). In other words, trips may be made between the existing retail, proposed food, and proposed hotel uses on-site which can be made either by walking or using internal roadways without using external streets. An internal capture reduction was applied to recognize the interactions that would occur between the various complementary land uses. The internal capture is based on the National Cooperative Highway Research Program's (NCHRP) Report 684 internal capture trip capture estimation tool. These internal capture worksheets are provided in Attachment B of the scoping agreement (Appendix 1.1).

Pass-by percentages have been obtained from the ITE Trip Generation Manual (11<sup>th</sup> Edition, 2021). Pass-by trips account for trips that are currently on the existing roadway network that would stop by uses within the proposed Project on the way to their ultimate destination. The pass-by reduction trips will be manually added back to the applicable driveway locations for the operations analysis. The reductions have only been applied to the proposed food/restaurant uses.

**TABLE 4-1: PROJECT TRIP GENERATION RATES**

Land Use <sup>1</sup>	Units <sup>2</sup>	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
Mini-Warehouse (Self-Storage)	TSF	151	0.053	0.037	0.090	0.071	0.080	0.150	1.450
Mini-Warehouse (RV Parking)	Spaces	151	0.006	0.006	0.012	0.008	0.008	0.017	0.180
High-Cube Fulfillment Center (Sort) <sup>3,5</sup>	TSF	155	0.705	0.165	0.870	0.468	0.732	1.200	6.440
Passenger Cars (AM=97.7%, PM=98.3%, Daily=97.1%)			0.695	0.155	0.850	0.458	0.722	1.180	6.250
2-Axle Trucks (AM=0.4%, PM=0.3%, Daily=0.5%)			0.002	0.001	0.003	0.002	0.001	0.003	0.032
3-Axle Trucks (AM=0.5%, PM=0.3%, Daily=0.6%)			0.002	0.002	0.004	0.002	0.002	0.004	0.039
4+-Axle Trucks (AM=1.4%, PM=1.0%, Daily=1.8%)			0.006	0.007	0.013	0.006	0.007	0.013	0.119
Hotel	Rooms	310	0.26	0.20	0.46	0.30	0.29	0.59	7.99
Shopping Center (Regression Equation)	TSF	820	0.60	0.37	0.97	1.93	2.09	4.02	41.48
High Turnover (Sit-Down) Restaurant	TSF	932	5.26	4.31	9.57	5.52	3.53	9.05	107.20
Fast-Food Restaurant with Drive-Thru	TSF	934	22.75	21.86	44.61	17.18	15.85	33.03	467.48

<sup>1</sup> Trip Generation & Vehicle Mix Source: [Institute of Transportation Engineers \(ITE\), Trip Generation Manual](#), Eleventh Edition (2021).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.  
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

A summary of the proposed Project trip generation, in actual vehicles, is shown in Table 4-2. As shown in Table 4-2, the proposed Project is anticipated to generate 5,770 two-way trips per day with 874 AM peak hour trips and 836 PM peak hour trips (actual vehicles). The Project site also includes 319,000 square feet of commercial retail which already exists on the northeast corner of Case Road and Ethanac Road. As such, the trip generation associated with the existing commercial has also been included for the purposes of the trip generation, however, is not included as part of the TA as the existing intersection counts will capture the existing traffic associated with the commercial uses.

For the purposes of the operations analysis, the PCE values shown in Table 4-3 will be utilized. PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in the City's guidelines. The Project is anticipated to generate a total of 5,916 two-way PCE trips per day on a typical weekday with approximately 889 PCE AM peak hour trips and 851 PCE PM peak hour trips.

**TABLE 4-2: PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Self-Storage Facility	211.900 TSF	11	8	19	15	17	32	308
Recreational Vehicle (RV) Storage	215 Spaces	1	1	2	2	2	4	40
High-Cube Fulfillment Center (Sort)	498.000 TSF							
Passenger Cars:		346	77	423	228	360	588	3,114
2-axle Trucks:		1	1	2	1	1	2	16
3-axle Trucks:		1	1	2	1	1	2	20
4+-axle Trucks:		3	3	6	3	3	6	60
Total Truck Trips:		5	5	10	5	5	10	96
Fulfillment Center Total Trips <sup>2</sup>		351	82	433	233	365	598	3,210
Hotel	128 Rooms	33	26	59	39	37	76	1,024
Internal Capture Trip Reduction (Hotel)		-1	-6	-7	-20	-18	-38	-512
High Turnover (Sit-Down) Restaurant	27.000 TSF	142	116	258	149	95	244	2,894
Pass-by Reduction (PM/Daily = 43%)		0	0	0	-21	-21	-42	-754
Fast-Food Restaurant with Drive-Thru	5.600 TSF	127	122	249	96	89	185	2,618
Internal Capture Trip Reduction (Restaurant)		-17	-16	-33	-83	-88	-171	-2,198
Pass-by Reduction (AM = 50%; PM/Daily = 55%)		-53	-53	-106	-26	-26	-52	-860
Passenger Cars		589	275	864	379	447	826	5,674
Trucks		5	5	10	5	5	10	96
<b>Project Total Trips<sup>2</sup></b>		<b>594</b>	<b>280</b>	<b>874</b>	<b>384</b>	<b>452</b>	<b>836</b>	<b>5,770</b>
Existing Commercial <sup>3</sup>	319.000 TSF	191	118	309	616	667	1,283	13,232
Internal Capture Trip Reduction (Retail)		-19	-15	-34	-81	-78	-159	-1,640
<b>Total Trips (Including Existing Commercial)</b>		<b>766</b>	<b>383</b>	<b>1,149</b>	<b>919</b>	<b>1,041</b>	<b>1,960</b>	<b>17,362</b>

<sup>1</sup> TSF = thousand square feet

<sup>2</sup> Total Trips = Passenger Cars + Truck Trips.

<sup>3</sup> The 319,000 square feet of general commercial use that currently exists at Case Road and Ethanac Road.

**TABLE 4-3: PROJECT TRIP GENERATION SUMMARY (PCE)**

Land Use	Quantity Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Self-Storage Facility	211,900 TSF	11	8	19	15	17	32	308
Recreational Vehicle (RV) Storage	215 Spaces	1	1	2	2	2	4	40
High-Cube Fulfillment Center (Sort)	498,000 TSF							
Passenger Cars:		346	77	423	228	360	588	3,114
2-axle Trucks:		1	1	2	1	1	2	24
3-axle Trucks:		2	2	4	2	2	4	40
4+-axle Trucks:		9	10	19	9	10	19	178
Total Truck Trips (PCE):		12	13	25	12	13	25	242
Fulfillment Center Total Trips <sup>2</sup>		358	90	448	240	373	613	3,356
Hotel	128 Rooms	33	26	59	39	37	76	1,024
Internal Capture Trip Reduction (Hotel)		-1	-6	-7	-20	-18	-38	-512
High Turnover (Sit-Down) Restaurant	27,000 TSF	142	116	258	149	95	244	2,894
Pass-by Reduction (PM/Daily = 43%)		0	0	0	-21	-21	-42	-754
Fast-Food Restaurant with Drive-Thru	5,600 TSF	127	122	249	96	89	185	2,618
Internal Capture Trip Reduction (Restaurant)		-17	-16	-33	-83	-88	-171	-2,198
Pass-by Reduction (AM = 50%; PM/Daily = 55%)		-53	-53	-106	-26	-26	-52	-860
Passenger Cars		589	275	864	379	447	826	5,674
Trucks (PCE)		12	13	25	12	13	25	242
<b>Project Total Trips (PCE)<sup>2</sup></b>		<b>601</b>	<b>288</b>	<b>889</b>	<b>391</b>	<b>460</b>	<b>851</b>	<b>5,916</b>
Existing Commercial <sup>3</sup>	319,000 TSF	191	118	309	616	667	1,283	13,232
Internal Capture Trip Reduction (Retail)		-19	-15	-34	-81	-78	-159	-1,640
<b>Total Trips (Including Existing Commercial)</b>		<b>773</b>	<b>391</b>	<b>1,164</b>	<b>926</b>	<b>1,049</b>	<b>1,975</b>	<b>17,508</b>

<sup>1</sup> TSF = thousand square feet

<sup>2</sup> Total Trips = Passenger Cars + Truck Trips.

<sup>3</sup> The 319,000 square feet of general commercial use that currently exists at Case Road and Ethanac Road.

## 4.2 PROJECT TRIP GENERATION COMPARISON

### 4.2.1 1990 SP EIR APPROVED USES

The Green Valley Specific Plan Environmental Impact Report (certified March 5, 1990, referred to as 1990 SP EIR) assumed the development of 471,500 square feet of general commercial use and 564,000 square feet of business park use. The trip-generation evaluated for the proposed Project evaluated in the 1990 SP EIR is summarized in Table 4-4 for the currently approved uses within Pas 40-44. The approved uses generate a total of 34,577 two-way trips per day with 1,494 AM peak hour trips and 2,986 PM peak hour trips as shown in Table 4-4. Attachment A in the scoping agreement (Appendix 1.1) includes excerpts from the original 1990 SP EIR identifying the trip generation for the applicable Pas.

**TABLE 4-4: 1990 SP EIR TRIP GENERATION**

Land Use <sup>1</sup>	Quantity Units <sup>2</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
PA 40: Business Park	302.000 TSF	376	63	439	72	320	392	3,481
PA 41: Business Park	262.000 TSF	353	59	412	68	301	369	3,273
PA 42: Commercial	118.500 TSF	128	55	183	317	330	647	7,811
PA 43: Commercial	153.500 TSF	149	63	212	361	375	736	9,163
PA 44: Commercial	199.500 TSF	173	75	248	395	447	842	10,849
<b>Total Trips</b>	<b>1,035.500 TSF</b>	<b>1,179</b>	<b>315</b>	<b>1,494</b>	<b>1,213</b>	<b>1,773</b>	<b>2,986</b>	<b>34,577</b>

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Fourth Edition.

<sup>2</sup> TSF = thousand square feet

**4.2.2 TRIP GENERATION COMPARISON**

Table 4-5 shows the trip generation comparison between the proposed Project uses (plus existing commercial uses) and the currently approved 1990 SP EIR land uses. The resulting net change in trips are identified in Table 4-5. As shown, the proposed Project is anticipated to generate 17,069 fewer two-way trips per day with 330 fewer AM peak hour trips and 1,011 fewer PM peak hour trips as compared to the currently approved land uses.

**TABLE 4-5: TRIP GENERATION COMPARISON**

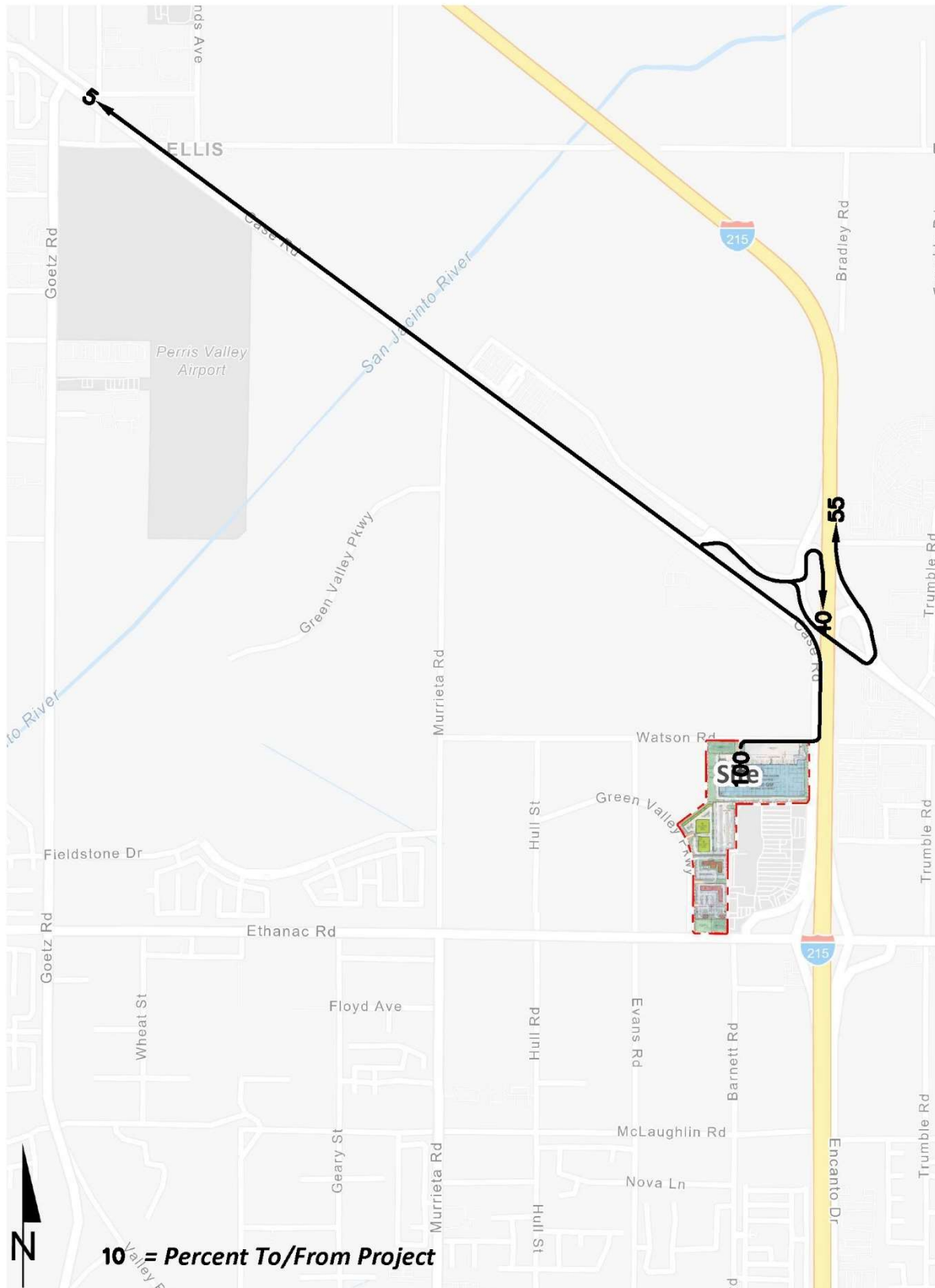
	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Approved 1990 SP EIR	1,179	315	1,494	1,213	1,773	2,986	34,577
Proposed Project (PCE)	773	391	1,164	926	1,049	1,975	17,508
<b>Net Change in Trips</b>	<b>-406</b>	<b>76</b>	<b>-330</b>	<b>-287</b>	<b>-724</b>	<b>-1,011</b>	<b>-17,069</b>

Note: Negative value represents a reduction in comparison to the Approved uses.

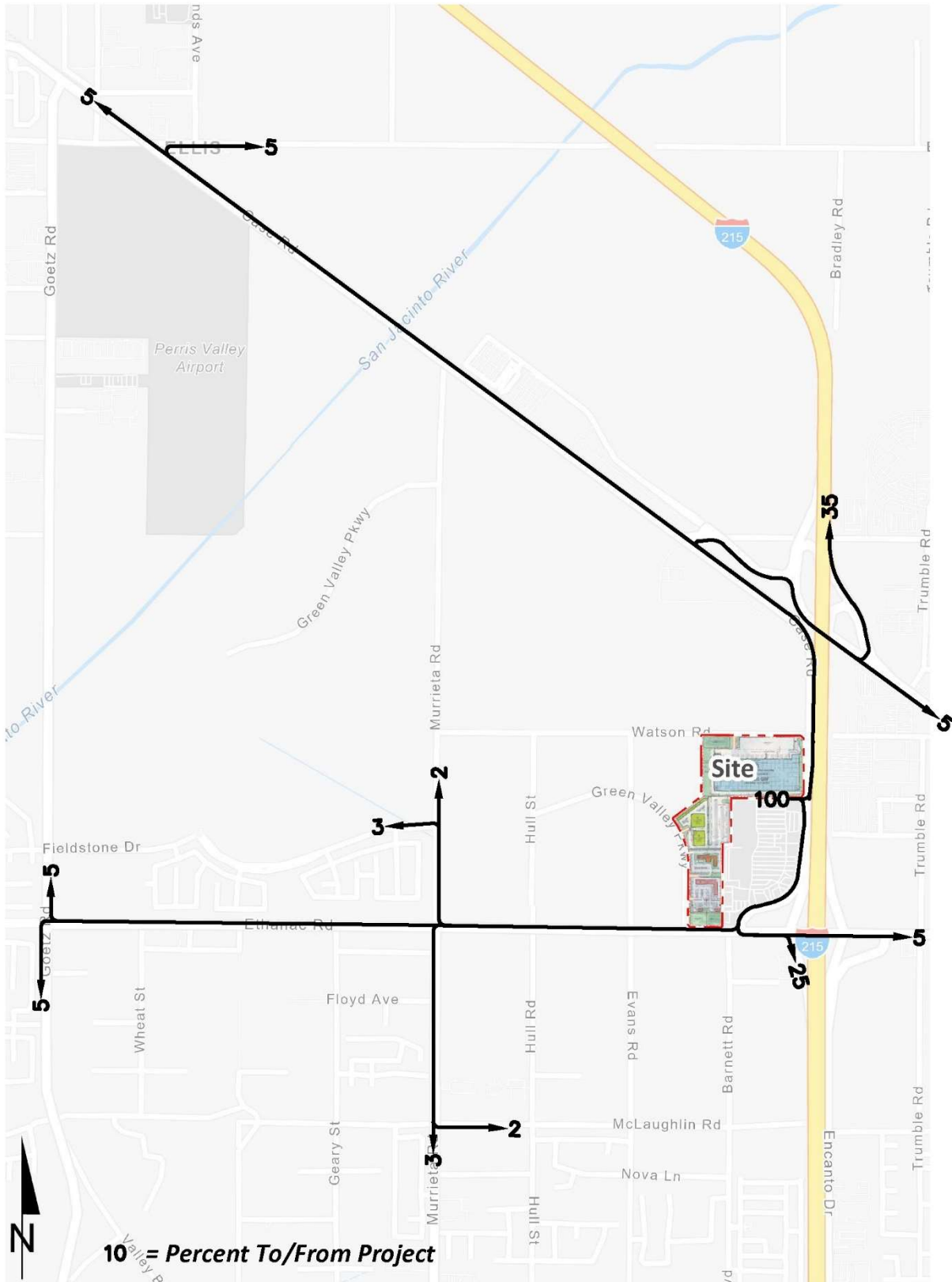
**4.3 PROJECT TRIP DISTRIBUTION**

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered to identify the route where the Project traffic would distribute. The Project trip distribution for both passenger cars and trucks was developed based on recent experience on other studies for similar land uses in the vicinity. Passenger car distribution patterns are based on existing and planned land uses and roadway infrastructure in the area. Truck distribution patterns are based on City truck routes, proximity to the freeway system, and the Project Applicant’s input on percentage of traffic oriented to the Port of Long Beach or other destinations (see Exhibit 3-6). The truck, passenger car for the warehouse, and passenger car for the hotel, and passenger car for the retail and storage trip distributions are shown on Exhibits 4-1, 4-2, 4-3, and 4-4 respectively. Alternative access has been evaluated for near term interim conditions at Green Valley Parkway and Ethanac Road (#10), which restricts the southbound left-turn movement. This alternative access assumes right-in/left-in/right-out only access until the City of Perris and City of Menifee permit southbound left-turn traffic and full-access movement. The alternative access affects the hotel trip distribution, and the interim condition trip distribution for the hotel use is also shown on Exhibit 4-3.

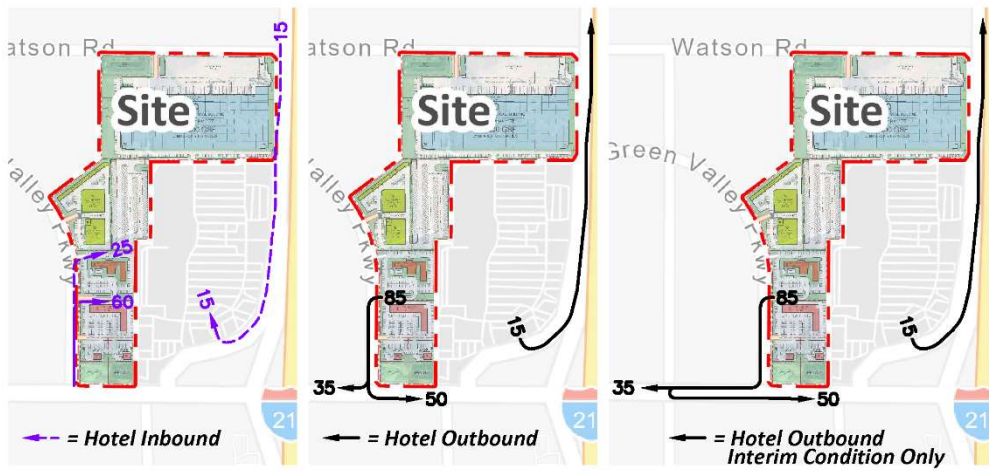
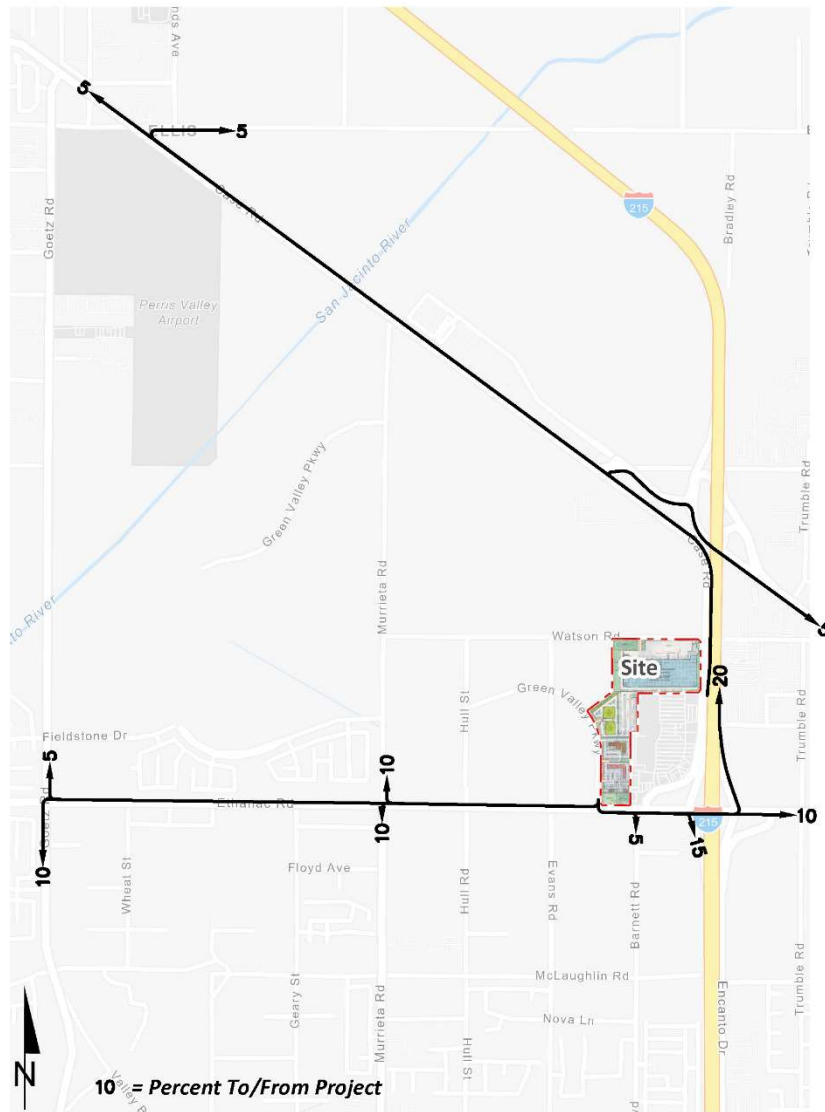
EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION



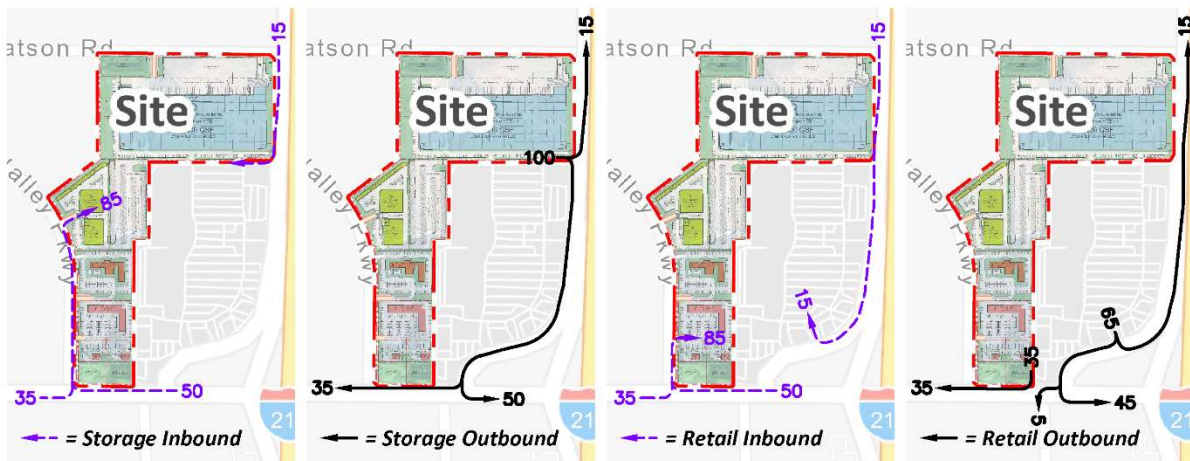
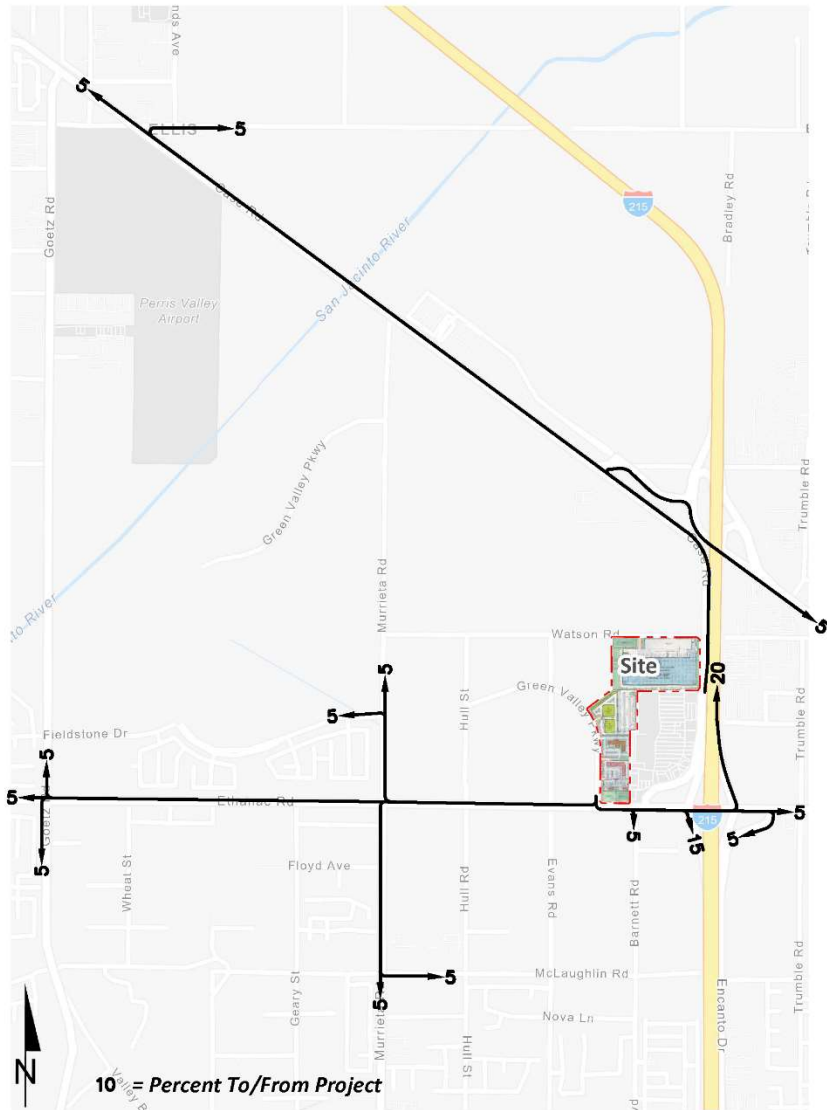
**EXHIBIT 4-2: PROJECT (WAREHOUSE PASSENGER CAR) TRIP DISTRIBUTION**



**EXHIBIT 4-3: PROJECT (HOTEL PASSENGER CAR) TRIP DISTRIBUTION**



**EXHIBIT 4-4: PROJECT (RETAIL AND STORAGE PASSENGER CAR) TRIP DISTRIBUTION**



#### 4.4 MODAL SPLIT

The potential for Project trips to be reduced by the use of public transit, walking, or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

#### 4.5 PROJECT TRIP ASSIGNMENT

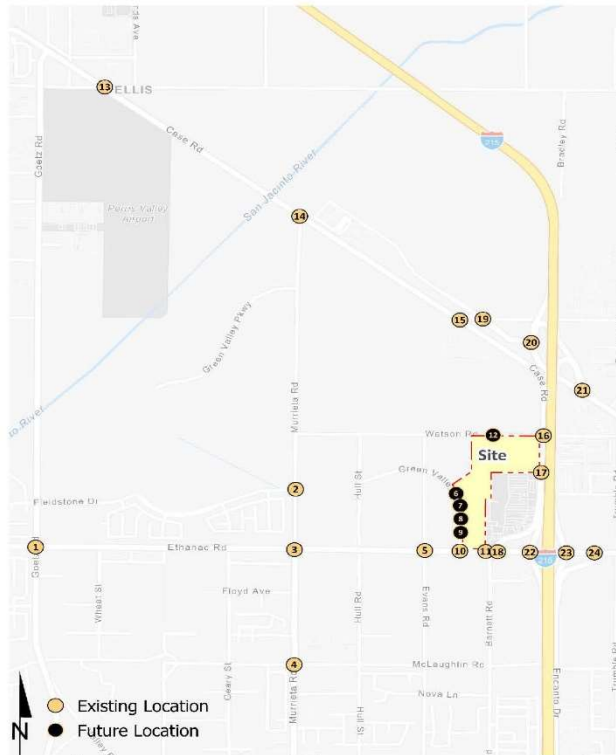
The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, are shown on Exhibit 4-5. Project weekday ADT and weekday peak hour intersection turning movement volumes, in PCE, are shown on Exhibit 4-6. The alternative access evaluated during interim conditions only affects Evans Road & Ethanac Road (#5) and Green Valley Parkway & Ethanac Road (#19), while all other study area intersections remain unaffected. The Project weekday ADT and weekday peak hour intersection turning movement volumes for the affected intersections during interim conditions only, are shown on Exhibit 4-7. The actual volumes and PCE volumes match at the affected intersections.

#### 4.6 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 3% per year, compounded annually, for 2026 conditions. The total ambient growth is 6.09% for 2026 traffic conditions (compounded growth of 3 percent per year over 2 years or  $1.03^{2 \text{ years}}$ ). The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

The currently adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (September 2020) growth forecasts for the City of Perris identifies projected growth in population of 74,900 in 2016 to 121,000 in 2045, or a 61.6 percent increase over the 29-year period. (8) The change in population equates to roughly a 1.67 percent growth rate, compounded annually. Similarly, growth over the same 29-year period in households is projected to increase by 96.5 percent, or 2.36 percent annual growth rate. Finally, growth in employment over the same 29-year period is projected to increase by 64.0 percent, or a 1.72 percent annual growth rate. This results in an average of 1.91 percent annual growth rate. As such, the 3.0 percent per year ambient growth rate utilized in this TA would appear to conservatively estimate annual traffic growth and overstate as opposed to understate future traffic forecasts.

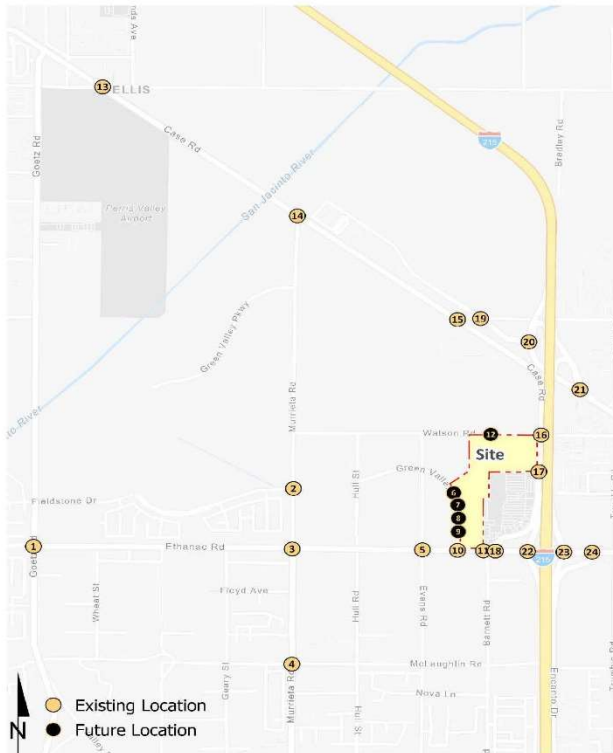
EXHIBIT 4-5: PROJECT ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES) (1 OF 2)



<p><b>1</b> Goetz Rd. &amp; Ethanac Rd.</p> <p>300 700</p> <p>← 29(19) ↑ 14(22)          ↓ 9(3) ↑ 15(23)</p> <p>11(7) → 31(20) →</p> <p>100 300</p>	<p><b>2</b> Murrieta Rd. &amp; Green Valley Pkwy.</p> <p>200</p> <p>← 21(13)</p> <p>21(13) ↓</p> <p>11(14) ↓ ↑ 12(13)</p> <p>400</p>	<p><b>3</b> Murrieta Rd. &amp; Ethanac Rd.</p> <p>400 1,500</p> <p>← 42(27) ↑ 24(27)          ↓ 37(49) ↑ 24(27)</p> <p>71(45) → 42(27) →</p> <p>400</p>	<p><b>4</b> Murrieta Rd. &amp; McLaughlin Rd.</p> <p>400 150</p> <p>← 13(16) ↑ 17(11)          ↓ 10(11)</p> <p>24(15) ↑</p> <p>250</p>
<p><b>5</b> Evans Rd. &amp; Ethanac Rd.</p> <p>1,500</p> <p>← 85(102)</p> <p>154(98) →</p> <p>1,500</p>	<p><b>6</b> Green Valley Pkwy. &amp; Driveway 1</p> <p>150</p> <p>10(14) →</p> <p>150</p>	<p><b>7</b> Green Valley Pkwy. &amp; Driveway 2</p> <p>Nominal</p> <p>10(14) ↑ ↑ 8(5)</p> <p>200</p>	<p><b>8</b> Green Valley Pkwy. &amp; Driveway 3</p> <p>200 350</p> <p>↑ 17(16)</p> <p>18(19) ↑ ↑ 19(11)</p> <p>600</p>
<p><b>9</b> Green Valley Pkwy. &amp; Driveway 4</p> <p>600 2,350</p> <p>← 17(16)</p> <p>↑ 37(31) ↑ 223(145)</p> <p>2,900</p>	<p><b>10</b> Green Valley Pkwy. &amp; Ethanac Rd.</p> <p>2,900 1,750</p> <p>↑ 139(91) ↑ 78(96)          ↓ 10(10)</p> <p>121(84) ↓ 33(15) →</p> <p>1,500</p>	<p><b>11</b> Barrett Rd. &amp; Ethanac Rd.</p> <p>600</p> <p>← 128(147) ↑ 9(3)</p> <p>42(23) → ↓ 1(1) ↓ 12(8)</p> <p>650</p>	<p><b>12</b> Driveway 5 &amp; Watson Rd.</p> <p>100</p> <p>↑ 5(5)</p> <p>5(5) →</p> <p>100</p>

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

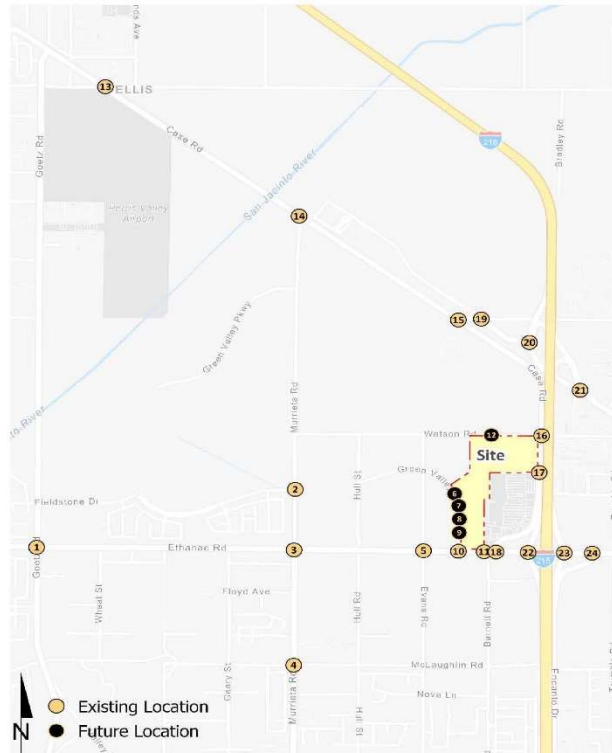
**EXHIBIT 4-5: PROJECT ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES) (2 OF 2)**



13	Case Rd. & Ellis Av.	14	Murrieta Rd. & Case Rd.	15	Case Rd. & Mapes Rd.	16	Case Rd. & Watson Rd.
300		300		1,450	2,050	2,050	
← 30(19)			← 28(45)	↑ 155(104)	↑ 45(153)	↑ 5(5)	
↑ 29(19)				← 28(45)	← 209(137)	↓ 5(5)	
↓ 14(23)		59(38) →		59(38) →		↓ 68(193)	
↓ 14(22)							
550	550			550		100	1,950
17	Case Rd. & Driveway 6	18	Case Rd. & Ethanac Rd.	19	Bonnie Dr. & Mapes Rd.	20	I-215 SB Ramps/SR-74 & Bonnie Dr.
1,950		2,950			1,450	600	
↑ 175(117)		↑ 27(82)	↑ 104(68)		↑ 155(104)	↑ 124(83)	
← 35(20)		← 139(170)	← 109(68)			↓ 2(2)	
↓ 40(183)		↓ 69(46)			↓ 45(153)	↓ 43(151)	
↓ 46(196)		→ 9(9)				↑ 31(21)	
↑ 173(114)							
↑ 28(10)							
3,300	2,050	1,450		1,450	1,450	850	
21	I-215 NB Ramps & SR-74	22	I-215 SB Ramps & Ethanac Rd.	23	I-215 NB Ramps & Ethanac Rd.	24	Encanto Dr. & Ethanac Rd.
600		250		250		300	
← 2(2)		↓ 49(30)	← 165(106)	← 42(27)		← 31(20)	
← 29(19)							
↓ 30(129)		→ 63(44)		↓ 40(17)		→ 15(23)	
→ 14(22)		↓ 49(103)		→ 24(27)		↓ 9(3)	
				↑ 123(80)		↑ 11(7)	
850	300	2,100	600	1,250	3,600	400	100

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

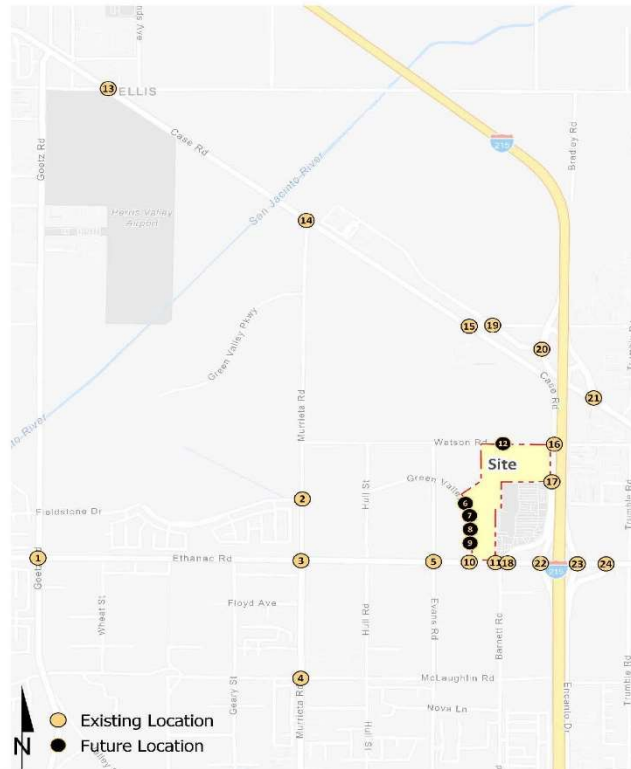
**EXHIBIT 4-6: PROJECT ONLY TRAFFIC VOLUMES (PCE) (1 OF 2)**



1	Goetz Rd. & Ethanac Rd.	2	Murrieta Rd. & Green Valley Pkwy.	3	Murrieta Rd. & Ethanac Rd.	4	Murrieta Rd. & McLaughlin Rd.																																
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5	Evans Rd. & Ethanac Rd.	6	Green Valley Pkwy. & Driveway 1	7	Green Valley Pkwy. & Driveway 2	8	Green Valley Pkwy. & Driveway 3																																
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9	Green Valley Pkwy. & Driveway 4	10	Green Valley Pkwy. & Ethanac Rd.	11	Barrett Rd. & Ethanac Rd.	12	Driveway 5 & Watson Rd.																																
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##(##) AM(PM) Peak Hour Intersection Volumes

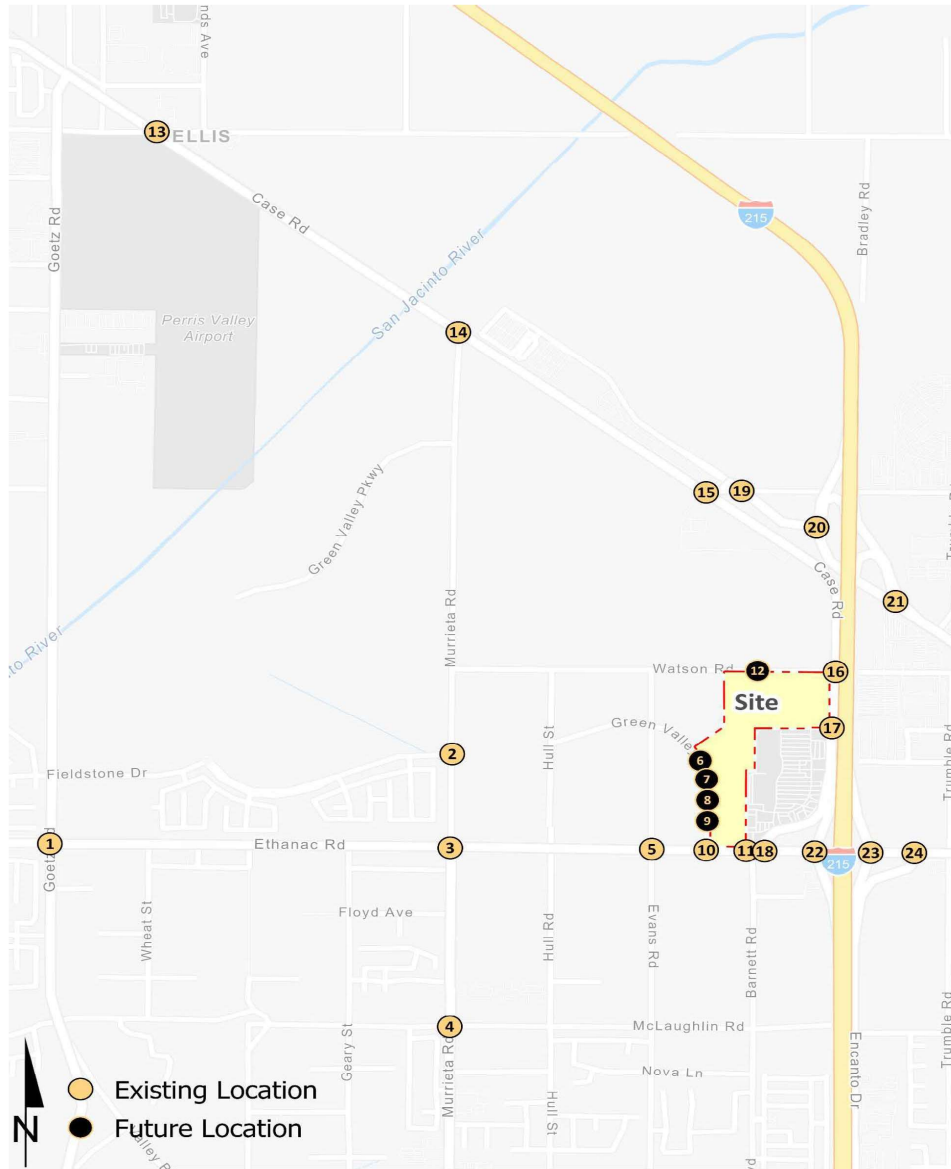
EXHIBIT 4-6: PROJECT ONLY TRAFFIC VOLUMES (PCE) (2 OF 2)



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##(##) AM(PM) Peak Hour Intersection Volumes

**EXHIBIT 4-7: PROJECT ONLY TRAFFIC VOLUMES (INTERIM CONDITIONS ONLY)**



5 Evans Rd. & Ethanac Rd.		10 Green Valley Pkwy. & Ethanac Rd.	
	1,750		1,750
	← 85(102) ↑ 10(10)	2,900 ↑ 17(16)	↑ 139(91) ← 78(96)
154(98) →		121(84) ↗ 43(24) →	
<b>1,500</b>		<b>1,800</b>	

##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

## 4.7 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Perris and City of Menifee. The cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to the study area intersections.

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e., 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate Opening Year Cumulative forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-8, listed in Table 4-6, and have been considered for inclusion. Any additional traffic generated by other projects not on the cumulative projects list is likely accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.6 *Background Traffic*. Cumulative Only ADT and peak hour intersection turning movement volumes, in actual vehicles, are shown on Exhibit 4-9.

**TABLE 4-6: CUMULATIVE DEVELOPMENT LAND USE SUMMARY**

No.	Project Name / Case Number	Jurisdiction	Land Use	Quantity Units <sup>1</sup>
P1	Mapes and Trumble Industrial	Perris	High-Cube Fulfillment Center Warehouse	396.000 TSF
	Green Valley Specific Plan	Perris		
P2	GVSP - Track 37262		Single Family Housing	191 DU
P3	GVSP - Track 37816		Multifamily Housing	97 DU
P4	GVSP - Track 37722 (25% Complete)		Single Family Housing	116 DU
P5	GVSP - Track 37817		Multifamily Housing	227 DU
P6	GVSP - Track 37818		Multifamily Housing	374 DU
P7	GVSP - Track 37223		Single Family Housing	235 DU
P8	GVSP - Phase 2 (North)		Multifamily Housing	1,183 DU
			Single Family Housing	462 DU
			Commercial	5.9 AC
			School	15.0 AC
P9	GVSP - Phase 2 (South)		Multifamily Housing	111 DU
			Commercial	5.4 AC
P10	Airport Industrial	Perris	Industrial	650.000 TSF
P11	Hillwood Ethanac	Perris	High-Cube Transload Warehouse	362.348 TSF
			High-Cube Cold Storage Warehouse	50.000 TSF
P12	Perris Airport Center Industrial	Perris	High-Cube Fulfillment Center Warehouse	795.109 TSF
			General Light Industrial	71.961 TSF
			Truck/Trailer Lot	323 Spaces
P13	Perris Logistics Center South	Perris	High-Cube Warehouse	3,448.734 TSF

No.	Project Name / Case Number	Jurisdiction	Land Use	Quantity Units <sup>1</sup>
P14	Waypoint Commerce Center	Perris	General Light Industrial	52.827 TSF
			Warehousing	246.523 TSF
			High-Cube Cold Storage Warehouse	52.827 TSF
M1	McLaughlin Warehouses (DEV2022-016)	Menifee	Warehouse	491.467 TSF
M2	United Carports Warehouse (DEV2022-009)	Menifee	Warehouse	58.643 TSF
M3	Trumble Retail (CUP2016-290)	Menifee	Hotel	108 RM
			Quality Restaurant	5.500 TSF
			Fast-Food w/ Drive-Thru	3.000 TSF
			Gas Station	12 VFP
M4	Paragon Framing (CUP2018-126)	Menifee	Office/Storage	10.454 TSF
M5	Trumble/Watson Warehouse (DEV2022-019)	Menifee	Warehouse	327.631 TSF
M6	TR 38132 & 38133 (SPA DEV2021-005)	Menifee	Single Family Residential	322 DU
M7	MR-27 LLC Rancon (TTM 34118)	Menifee	Multifamily (Low-Rise)	85 DU
M8	Motte Country Plaza (PP2018-300)	Menifee	Gas Station	12 VFP
M9	Menifee Commerce Center (PP2019-005)	Menifee	Warehouse	1,640.130 TSF
M10	Motte Business Center	Menifee	Warehouse	1,138.638 TSF
M11	Goetz/Ethanac Commercial (PP PLN21-0319)	Menifee	Gas Station w/ C-Store	7.250 TSF
			Car Wash	2.790 TSF
			Retail	7.040 TSF
M12	Mapes and Sherman Warehouse	Menifee	High-Cube Fulfillment Center Warehouse	277.578 TSF
M13	Cimarron Ridge	Menifee	Residential	756 DU
M14	DEV2022-001	Menifee	Single Family Residential	96 DU
M15	McLaughlin Village	Menifee	Condominiums	126 DU
M16	Underwood	Menifee	Residential	543 DU
M17	Wheat Warehouse	Menifee	Warehouse Distribution Center	87.676 TSF
M18	Corsica Business Park (DEV2022-010)	Menifee	Business Park	276.682 TSF
M19	CADO Warehouse	Menifee	Warehouse	700.037 TSF
M20	Murrieta Road Warehouse (DEV2022-017)	Menifee	Warehouse	517.720 TSF
M21	Northern Gateway Commerce Center II (PP PLN21-0281)	Menifee	High-Cube Warehouse	1,312.601 TSF
M22	Ethanac/Evans Warehouse (DEV2022-018)	Menifee	Warehouse	137.896 TSF
M23	Ethanac Square (MJMOD PLN21-0104)	Menifee	Gas Station	3.800 TSF
M24	Ethanac/Barnett Warehouse (PP PLN21-0290)	Menifee	Warehouse	250.000 TSF
M25	Menifee Logistics (PLN23-0040)	Menifee	Warehouse	411.829 TSF
M26	LDW TTM 38346	Menifee	Condominiums	162 DU
M27	Legado SP	Menifee	Single Family Detached Residential	1,061 DU
			Shopping Center	225.000 TSF
			Sports Park	11.23 AC
			Recreational Community Center	10.000 TSF
RC1	TTM/TR37358	County	Residential lots	154 DU
RC2	TR31687	County	Single Family Residential	65 DU

<sup>1</sup> TSF = Thousand Square Feet; DU = Dwelling Units; VSP = Vehicle Fueling Positions; STU = Students

**EXHIBIT 4-8: CUMULATIVE DEVELOPMENT LOCATION MAP**

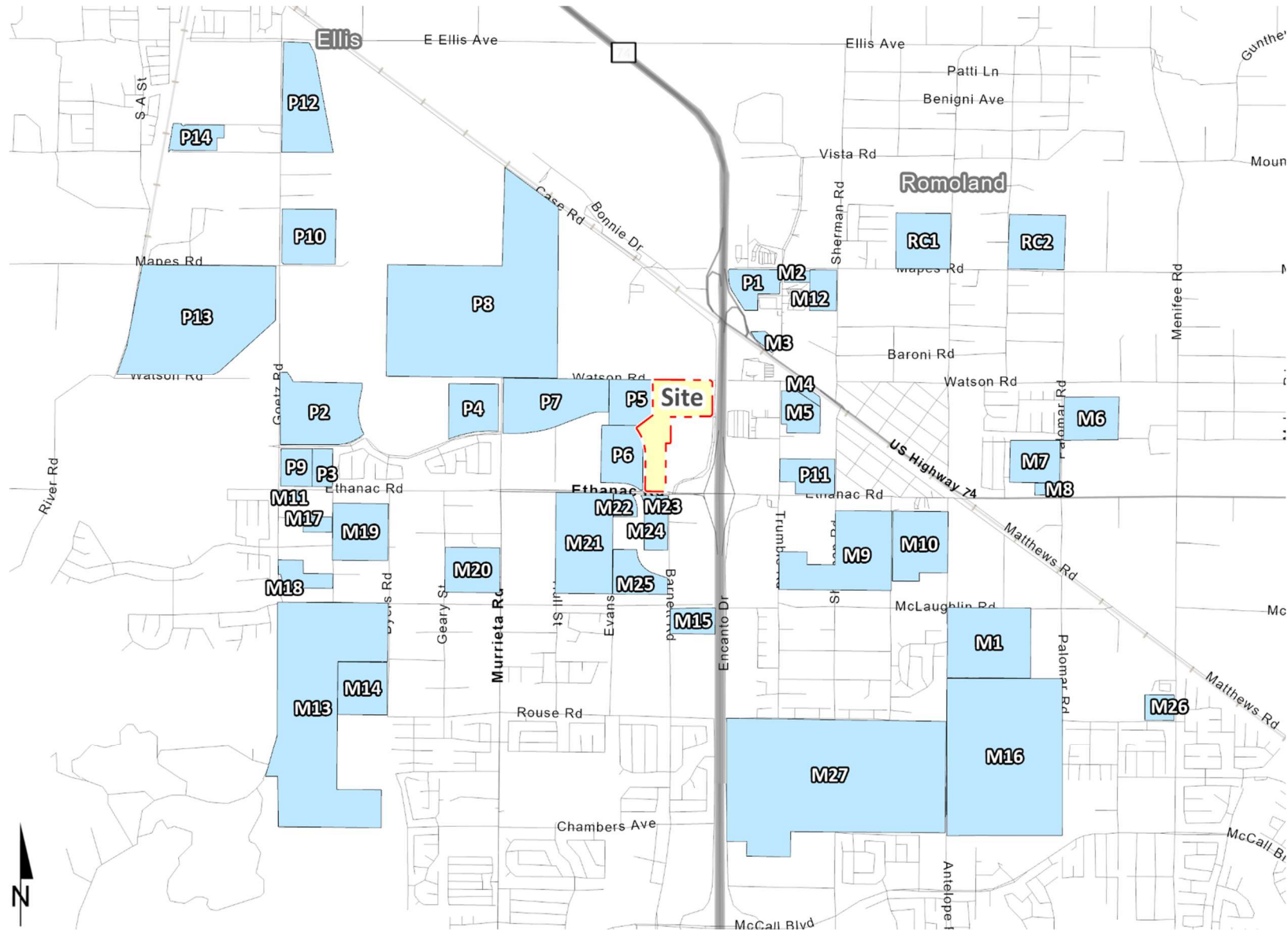
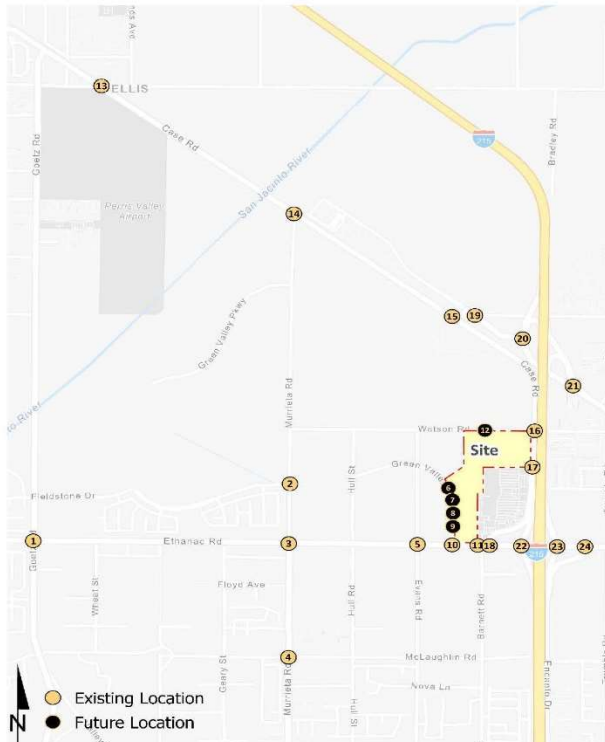


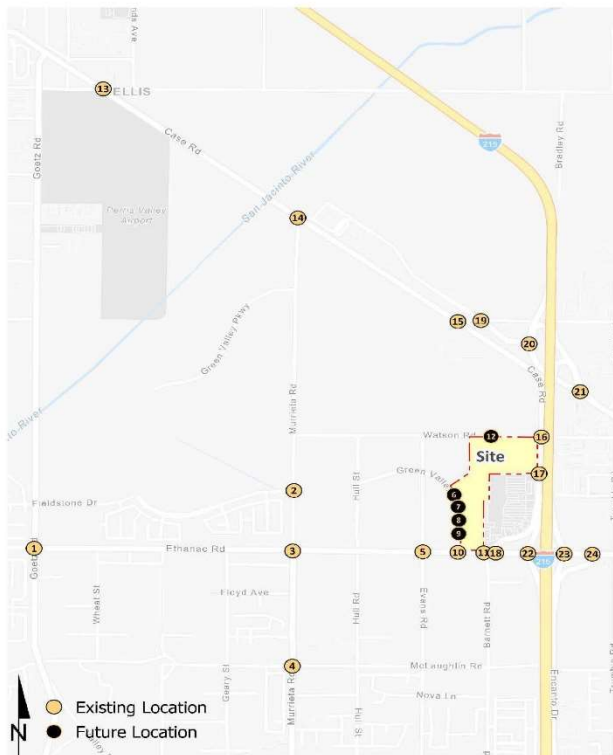
EXHIBIT 4-9: CUMULATIVE ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES) (1 OF 2)



<b>1</b>	<b>Goetz Rd. &amp; Ethanac Rd.</b>	<b>2</b>	<b>Murrieta Rd. &amp; Green Valley Pkwy.</b>	<b>3</b>	<b>Murrieta Rd. &amp; Ethanac Rd.</b>	<b>4</b>	<b>Murrieta Rd. &amp; McLaughlin Rd.</b>
5,050	10,650	8,950	1,050	5,500	24,600	4,000	
← 107(100) ↑ 159(125) ↑ 50(124) ↑ 2(8) ↑ 361(382)	↑ 10(9) → ↑ 152(139) → ↑ 228(259) →	↓ 76(100) ↓ 325(326) ↑ 76(107) → ↓ 12(27) ↓ ↓ 77(50) ↓	↑ 87(52) ↑ 25(18) ↑ 18(10) ↑ 27(85) → ↑ 207(410) →	↓ 70(59) ↓ 33(26) ↓ 317(300) ↑ 30(67) → ↓ 481(753) ↓ 70(106)	↑ 192(407) ↑ 704(650) ↑ 81(91) ↑ 82(75) → ↑ 16(39) → ↑ 81(106) →	← 123(199)	
400	11,850	3,850	9,800	19,000	8,200	250	4,100
<b>5</b>	<b>Evans Rd. &amp; Ethanac Rd.</b>	<b>6</b>	<b>Green Valley Pkwy. &amp; Driveway 1</b>	<b>7</b>	<b>Green Valley Pkwy. &amp; Driveway 2</b>	<b>8</b>	<b>Green Valley Pkwy. &amp; Driveway 3</b>
	26,500	2,300		2,300		2,850	
833(1144) → 43(20) ↓	← 971(1111) ↑ 145(68) 8(37) → 36(125) →	← 131(88)	42(142) →	← 131(88)	42(142) →	← 131(88)	92(54) ↓ 28(94) → 42(142) →
17,400	3,050	2,300	2,300	2,300	2,300	1,500	3,250
<b>9</b>	<b>Green Valley Pkwy. &amp; Driveway 4</b>	<b>10</b>	<b>Green Valley Pkwy. &amp; Ethanac Rd.</b>	<b>11</b>	<b>Barrett Rd. &amp; Ethanac Rd.</b>	<b>12</b>	<b>Driveway 5 &amp; Watson Rd.</b>
3,800	1,400	24,600	300	29,950	700		
← 223(142)	↑ 70(236) →	↑ 66(222) ↑ 1102(1171) 4(14) ↓ 865(1255) →	← 1(0)	← 1108(1375) ↑ 56(22) 8(18) → 0(1) → 10(43) →	← 19(41)		
3,800	21,300	2,350	29,600	600	700		

##(##) AM(PM) Peak Hour Intersection Volumes  
## Average Daily Trips

**EXHIBIT 4-9: CUMULATIVE ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES) (2 OF 2)**



13	Case Rd. & Ellis Av.	14	Murrieta Rd. & Case Rd.	15	Case Rd. & Mapes Rd.	16	Case Rd. & Watson Rd.
5,350	11,000	7,400	10,500	9,800	2,100	400	
← 93(190) ↖ 14(14) ↗ 36(36) ↑ 146(121) ↘ 333(348)	↖ 374(78) ↘ 70(281)	↖ 336(258) ↘ 83(89) ↗ 32(102) ↖ 3(1)	← 19(41) ↖ 65(49)	↖ 566(443) ↘ 2(1)	↖ 31(30) ↘ 3(73)		
↖ 171(205) ↘ 292(261) ↗ 192(131) ↘ 156(135) ↗ 277(218)	↖ 554(313) ↘ 150(480) ↗ 261(385) ↘ 102(219)	↖ 598(545) ↘ 287(185) ↗ 214(472) ↖ 298(638)	↖ 19(41) ↘ 65(49)	↖ 31(30) ↘ 3(73)	↖ 271(260) ↘ 231(227)		
8,900	12,800	14,400	5,950	8,950	1,200	700	300
17	Case Rd. & Driveway 6	18	Case Rd. & Ethanac Rd.	19	Bonnie Dr. & Mapes Rd.	20	I-215 SB Ramps/SR-74 & Bonnie Dr.
		600	30,500	550	2,350	12,150	
← 65(49)	↖ 3(73) ↗ 3(73)	↖ 2(30) ↘ 159(32) ↗ 68(25) ↖ 1161(1367)	↖ 418(347)	↖ 147(87) ↘ 318(333)	↖ 387(373) ↘ 212(173) ↗ 271(260) ↘ 231(227)		
		↖ 3(18) ↘ 913(1407)	↖ 598(545) ↘ 287(185)	↖ 387(373) ↘ 212(173)	↖ 271(260) ↘ 231(227)		
		30,400	400	7,350	9,150	12,300	12,150
21	I-215 NB Ramps & SR-74	22	I-215 SB Ramps & Ethanac Rd.	23	I-215 NB Ramps & Ethanac Rd.	24	Encanto Dr. & Ethanac Rd.
10,300	14,050	16,650	21,300	3,450	20,050		18,700
↖ 218(177) ↘ 240(252) ↗ 181(181) ↖ 283(310)	↖ 568(551) ↘ 436(379) ↗ 661(841) ↖ 78(288)	↖ 419(627) ↘ 713(692) ↗ 439(490) ↘ 287(185)	↖ 363(951)	↖ 972(860) ↘ 28(17) ↗ 149(159)			
↖ 171(98) ↘ 360(409)	↖ 696(940) ↘ 376(499)	↖ 419(627) ↘ 713(692)	↖ 363(951)	↖ 972(860) ↘ 28(17) ↗ 149(159)			
12,950	550	26,250	1,450	25,400	15,350	20,900	2,200

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

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## 5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P conditions and the resulting intersection operations, traffic signal warrants, and off-ramp queuing analyses.

### 5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Alternative access has been evaluated for near term interim conditions at Green Valley Parkway and Ethanac Road (#10), which restricts the southbound left-turn movement. This alternative access assumes right-in/left-in/right-out only access until the City of Perris and City of Menifee permit southbound left-turn traffic.

### 5.2 E+P TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2024) traffic volumes plus the addition of Project traffic. The weekday ADT volumes and peak hour volumes, in actual vehicles, which can be expected for E+P traffic conditions are shown on Exhibit 5-1. The weekday ADT and peak hour volumes, which can be expected for E+P traffic conditions for the affected intersections during interim conditions only, are shown on Exhibit 5-2.

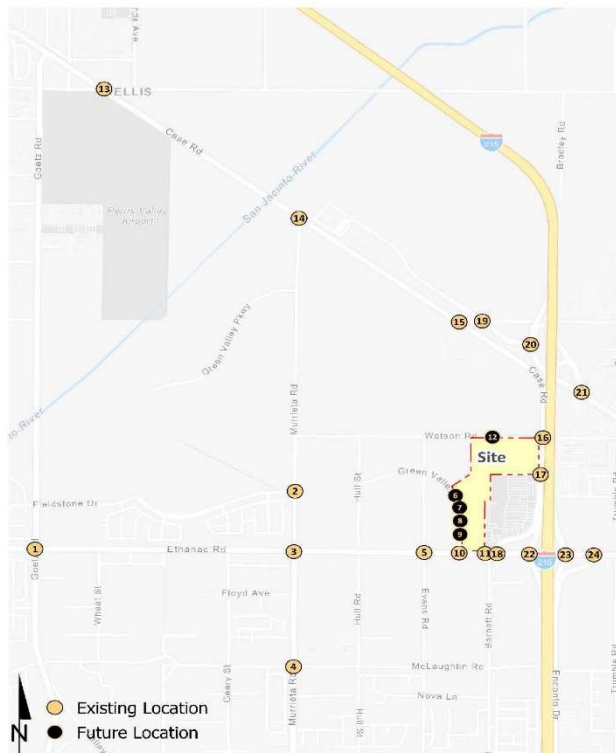
### 5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1 for E+P traffic conditions, which indicates the study area intersection is anticipated to continue to operate at an acceptable LOS during the peak hours, with the exception of the following intersection (consistent with Existing traffic conditions):

- Encanto Drive & Ethanac Road (#24) – LOS F AM and PM peak hours

It should be noted that based on the City's guidelines, the Project would have a "direct" impact at Encanto Drive and Ethanac Road (#24). The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of this TA. The intersection operations analysis worksheets for E+P traffic conditions, during Interim Conditions only, are included in Appendix 5.2 of this TA.

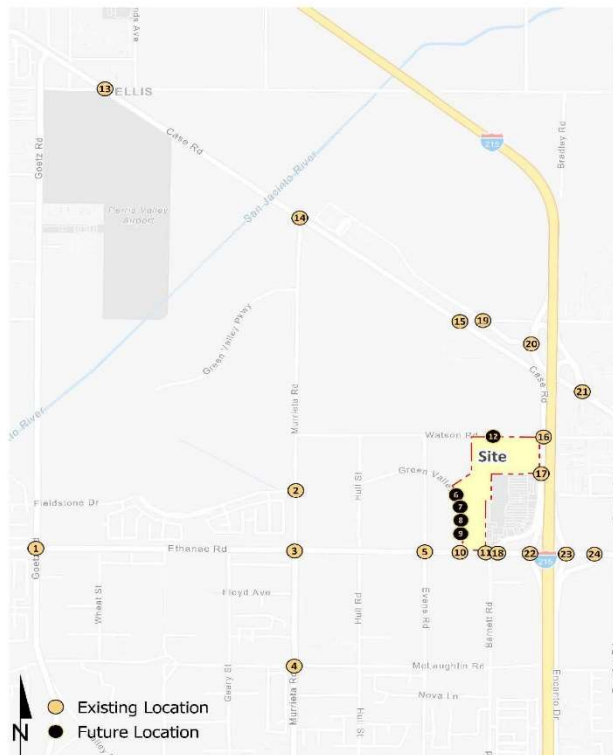
EXHIBIT 5-1: E+P TRAFFIC VOLUMES (ACTUAL VEHICLES) (1 OF 2)



<p><b>1</b> Goetz Rd. &amp; Ethanac Rd.</p> <p>13,050 14(29) 116(241) 278(321) 257(234) 71(80) 194(308) 23(15) 115(60) 5(4) 1(1) 283(112) 421(223) 16,550 12,150</p> <p>2,600</p>	<p><b>2</b> Murrieta Rd. &amp; Green Valley Pkwy.</p> <p>3,950 15(33) 84(124) 56(30) 116(70) 62(82) 118(104) 5,000</p> <p>2,850</p>	<p><b>3</b> Murrieta Rd. &amp; Ethanac Rd.</p> <p>4,350 3(6) 64(110) 133(78) 80(101) 379(572) 141(188) 3(3) 752(509) 56(123) 64(83) 98(82) 146(170) 17,500 10,250</p>	<p><b>4</b> Murrieta Rd. &amp; McLaughlin Rd.</p> <p>9,950 4(4) 233(377) 22(25) 29(16) 0(1) 6(6) 2(2) 259(311) 5(6) 650 9,650</p>
<p><b>5</b> Evans Rd. &amp; Ethanac Rd.</p> <p>21,400 666(858) 0(2) 1098(760) 1(0) 1(1) 21,350 Nominal</p>	<p><b>6</b> Green Valley Pkwy. &amp; Driveway 1</p> <p>150 10(14) 150</p>	<p><b>7</b> Green Valley Pkwy. &amp; Driveway 2</p> <p>Nominal 10(14) 8(5) 200</p>	<p><b>8</b> Green Valley Pkwy. &amp; Driveway 3</p> <p>200 17(16) 18(19) 19(11) 600</p>
<p><b>9</b> Green Valley Pkwy. &amp; Driveway 4</p> <p>600 17(16) 37(31) 223(145) 2,350 2,900</p>	<p><b>10</b> Green Valley Pkwy. &amp; Ethanac Rd.</p> <p>2,900 7(7) 10(10) 139(91) 659(854) 121(84) 978(677) 21,650 21,400</p>	<p><b>11</b> Barrett Rd. &amp; Ethanac Rd.</p> <p>23,650 694(884) 108(152) 950(655) 37(31) 27(29) 170(125) 20,550 4,700</p>	<p><b>12</b> Driveway 5 &amp; Watson Rd.</p> <p>100 1(0) 5(5) 5(5) 100</p>

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

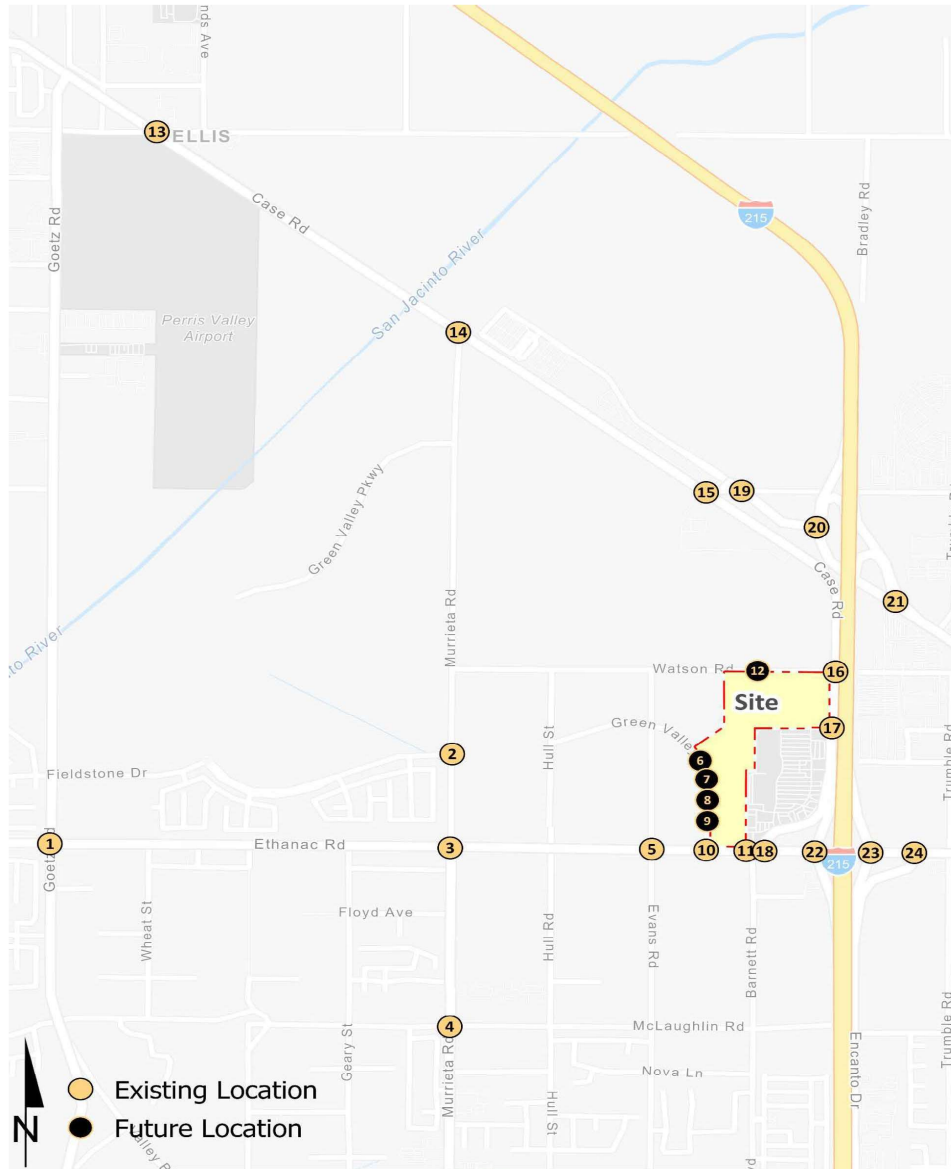
EXHIBIT 5-1: E+P TRAFFIC VOLUMES (ACTUAL VEHICLES) (2 OF 2)



<b>13 Case Rd. &amp; Ellis Av.</b> 10,750 228(323) ↓ 147(83) ↖ 111(119) ↑ 13(0) ← 65(111) ↙ 6(1) → 2(1) ↓ 247(263) ↑ 90(90) ↗ 9,450 Nominal		<b>14 Murrieta Rd. &amp; Case Rd.</b> 8,300 226(277) ← 22(23) ↖ 244(320) → 46(111) ↘ 108(84) ↗ 8(15) ↘ 3,250		<b>15 Case Rd. &amp; Mapes Rd.</b> 9,500 200(174) ↓ 1(0) ↖ 244(174) ↖ 91(234) ↑ 95(130) ← 121(248) ↖ 135(125) → 0(1) ↖ 1(1) ↑ 8,900 Nominal		<b>16 Case Rd. &amp; Watson Rd.</b> 7,200 6(5) ↓ 381(300) ↓ 6(5) ↓ 161(399) ↑ 7,100	
<b>17 Case Rd. &amp; Driveway 6</b> 7,100 244(182) ↓ 137(118) ↖ 78(288) ↘ 56(220) ↓ 185(129) ↖ 83(111) ↑ 6,250		<b>18 Case Rd. &amp; Ethanac Rd.</b> 20,350 129(284) ↓ 443(654) ↖ 474(524) ↑ 672(752) ← 239(250) ↖ 917(562) → 24,450		<b>19 Bonnie Dr. &amp; Mapes Rd.</b> 9,550 13(3) ← 437(342) ↖ 6(10) → 7(6) ↓ 1(4) ↖ 213(482) ↗ 350 9,550		<b>20 I-215 SB Ramps/SR-74 &amp; Bonnie Dr.</b> 17,750 158(103) ↓ 541(848) ↓ 30(33) ↓ 189(456) ↓ 292(241) ↖ 406(328) ↑ 8,050 24,650	
<b>21 I-215 NB Ramps &amp; SR-74</b> 13,450 14(33) ↓ 169(250) ↖ 41(148) ↘ 690(1156) → 857(620) ↑ 685(536) ← 35,550		<b>22 I-215 SB Ramps &amp; Ethanac Rd.</b> 8,050 278(375) ↓ 1(0) ↖ 128(210) ↖ 0(2) ↑ 869(902) ← 77(124) ↖ 788(679) → 536(506) ↓ 0(1) ↖ 7,950		<b>23 I-215 NB Ramps &amp; Ethanac Rd.</b> 7,100 231(217) ↑ 562(571) ← 258(287) ↘ 659(603) → 384(457) ↖ 3(3) ↑ 128(152) ↖ 21,250 11,050		<b>24 Encanto Dr. &amp; Ethanac Rd.</b> 6,400 72(16) ↓ 272(64) ↓ 182(174) ↖ 27(32) ↖ 386(643) → 375(80) ↓ 48(89) ↑ 420(618) ← 180(72) ↖ 300(153) ↖ 201(83) ↑ 119(93) ↖ 23,350 7,600	

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

**EXHIBIT 5-2: E+P TRAFFIC VOLUMES (INTERIM CONDITIONS ONLY)**



● Existing Location  
● Future Location

5 Evans Rd. & Ethanac Rd.		10 Green Valley Pkwy. & Ethanac Rd.	
	21,650	2,900	21,650
	← 666(858)	↑ 17(16)	↑ 139(91)
	↑ 10(12)	← 121(84)	← 659(854)
1098(760) →	↑ 1(1)	988(686) →	
1(0) ↓	Nominal		
<b>21,350</b>		<b>21,650</b>	

###(###) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

**TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS**

#	Intersection	Traffic Control <sup>2</sup>	Existing (2024)				E+P			
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Goetz Rd. & Ethanac Rd.	TS	26.6	30.4	C	C	30.1	33.5	C	C
2	Murrieta Rd. & Green Valley Pkwy.	CSS	10.8	11.3	B	B	11.3	12.0	B	B
3	Murrieta Rd. & Ethanac Rd.	TS	16.8	14.6	B	B	53.0	16.7	D	B
4	Murrieta Rd. & McLaughlin Rd.	CSS	12.8	13.7	B	B	13.7	14.5	B	B
5	Evans Rd. & Ethanac Rd.	CSS	12.1	10.7	B	B	13.0	11.2	B	B
	- Interim Condition	CSS					13.0	11.2	B	B
6	Green Valley Pkwy. & Driveway 1	<u>CSS</u>	Future Intersection				0.0	0.0	A	A
7	Green Valley Pkwy. & Driveway 2	<u>CSS</u>	Future Intersection				0.0	0.0	A	A
8	Green Valley Pkwy. & Driveway 3	<u>CSS</u>	Future Intersection				9.1	9.0	A	A
9	Green Valley Pkwy. & Driveway 4	<u>CSS</u>	Future Intersection				0.0	0.0	A	A
10	Green Valley Pkwy. & Ethanac Rd.	<u>CSS</u>	Future Intersection				34.7	32.3	D	D
	- Interim Condition	<u>CSS</u>					10.6	11.8	B	B
11	Barrett Rd. & Ethanac Rd.	TS	9.8	8.7	A	A	10.0	8.8	B	A
12	Driveway 5 & Watson Rd.	<u>CSS</u>	Future Intersection				8.4	8.3	A	A
13	Case Rd. & Ellis Av.	TS	27.0	15.1	C	B	27.3	15.6	C	B
14	Murrieta Rd. & Case Rd.	AWS	10.1	11.2	B	B	10.9	12.5	B	B
15	Case Rd. & Mapes Rd.	AWS	10.1	11.9	B	B	16.8	20.9	C	C
16	Case Rd. & Watson Rd.	CSS/AWS	10.1	0.0	B	A	10.9	13.8	B	B
17	Case Rd. & Driveway 6	CSS	10.0	10.9	B	B	14.3	23.6	B	C
18	Case Rd. & Ethanac Rd.	TS	10.2	14.8	B	B	14.6	21.2	B	C
19	Bonnie Dr. & Mapes Rd.	TS	13.3	14.2	B	B	13.9	14.3	B	B
20	I-215 SB Ramps/SR-74 & Bonnie Dr.	TS	12.7	18.6	B	B	13.8	21.8	B	B
21	I-215 NB Ramps & SR-74	TS	7.8	9.4	A	A	8.4	10.9	A	B
22	I-215 SB Ramps & Ethanac Rd.	TS	16.8	20.0	B	C	21.8	23.7	C	C
23	I-215 NB Ramps & Ethanac Rd.	TS	27.3	47.1	C	D	52.9	53.6	D	D
24	Encanto Dr. & Ethanac Rd.	CSS	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; AWS = All-Way Stop; CSS = Improvement

### 5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for E+P traffic conditions is based on peak hour intersection turning movements volumes or planning level (ADT) volumes. The following additional study area intersections are anticipated to meet traffic signal warrants under E+P traffic conditions, in addition to the intersections identified previously under Existing traffic conditions:

- Green Valley Parkway & Ethanac Road (#10)
- Case Road & Mapes Road (#15)
- Case Road & Driveway 6 (#17)

As previously mentioned, a traffic signal is not needed to maintain acceptable peak hour operations at Green Valley Parkway & Ethanac Road (#10). E+P traffic signal warrant analysis worksheets are provided in Appendix 5.3 of this TA.

### 5.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for E+P are presented in Table 5-2. As shown in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows, consistent with Existing conditions. Worksheets for E+P traffic conditions off-ramp queuing analysis are provided in Appendix 5.4.

**TABLE 5-2: PEAK HOUR OFF-RAMP QUEUING SUMMARY FOR E+P CONDITIONS**

# Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024)				E+P			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
20 I-215 SB Ramps/SR-74 & Bonnie Dr.	SBT	1445	499	813	Yes	Yes	517	813	Yes	Yes
	SBR	155	30	17	Yes	Yes	91	55	Yes	Yes
21 I-215 NB Ramps & SR-74	SBL/R	1465	112	201	Yes	Yes	125	209	Yes	Yes
22 I-215 SB Ramps & Ethanac Rd.	SBT	1375	143	207	Yes	Yes	143	207	Yes	Yes
	SBR	240	67	199	Yes	Yes	170	298 <sup>2,3</sup>	Yes	Yes
23 I-215 NB Ramps & Ethanac Rd.	NBL/T	1325	311 <sup>2</sup>	469 <sup>2</sup>	Yes	Yes	506 <sup>2</sup>	647 <sup>2</sup>	Yes	Yes
	NBR	270	49	51	Yes	Yes	49	59	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

## 5.6 DEFICIENCIES AND IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the City of Perris deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, roadway segments were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are also discussed below.

Table 5-3 indicates the improvements needed to address LOS deficiencies at the deficient study area intersection under E+P traffic conditions. The improvements have been identified to improve the E+P deficiency back to an acceptable level. It should be noted that the buildout of the Perris Towne Center project will include the closure of Encanto Drive at Ethanac Road, according to the City of Perris. As such, the improvement at this intersection is only required if the intersection is not vacated by the Perris Towne Center project, as indicated in Table 5-3. However, the Project Applicant should enter into an agreement with the City to fund the recommended traffic signal improvement in the event that the intersection is not eliminated. Intersection analysis worksheets for E+P traffic conditions, with improvements, are provided in Appendix 5.5.

**TABLE 5-3: INTERSECTION ANALYSIS FOR E+P CONDITIONS WITH IMPROVEMENTS**

# Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service		
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
		L	T	R	L	T	R	L	T	R	L	T	R					
24 Encanto Dr. & Ethanac Rd.																		
Without Improvements	CSS	0	1	0	0	0	0	0	1	0	1	1	0	>100.0	>100.0	<b>F</b>	<b>F</b>	
With Improvements <sup>4</sup>	<b>TS</b>	0	1	0	0	0	0	0	1	0	1	1	0	28.3	9.1	C	A	

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

<sup>2</sup> Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> CSS = Cross-Street Stop; TS = Traffic Signal; **TS** = Improvement

<sup>4</sup> Improvements are only required if this intersection is not vacated by the Perris Towne Center Project.

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## 6 EAC AND EAPC (2026) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAC and EAPC (2026) traffic conditions and the resulting intersection operations, traffic signal warrants, and off-ramp queuing analyses.

### 6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAC and EAPC (2026) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC (2026) conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Alternative access has been evaluated for near term interim conditions at Green Valley Parkway and Ethanac Road (#10), which restricts the southbound left-turn movement. This alternative access assumes right-in/left-in/right-out only access until the City of Perris and City of Menifee permit southbound left-turn traffic.

### 6.2 EAC AND EAPC (2026) TRAFFIC VOLUME FORECASTS

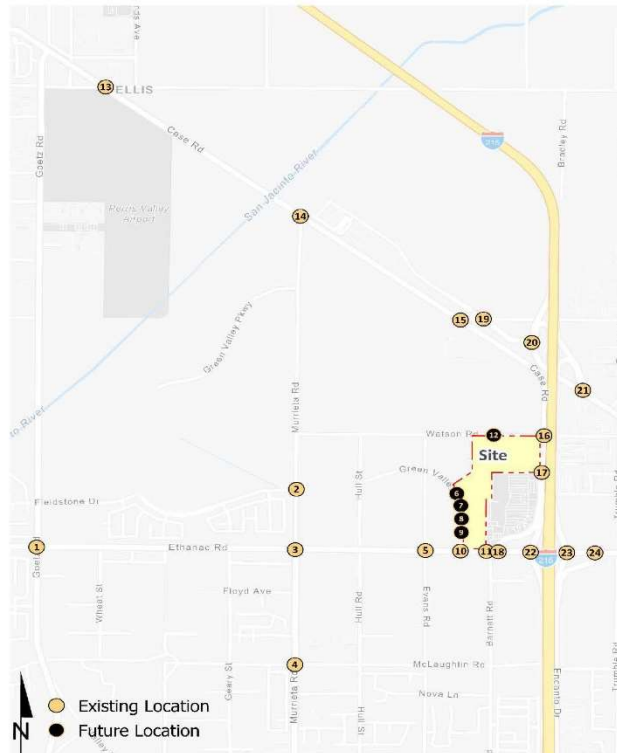
#### 6.2.1 EAC (2026) TRAFFIC CONDITIONS

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.09% and the addition of traffic generated by cumulative development projects. The weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, which can be expected for EAC (2026) traffic conditions are shown on Exhibit 6-1. The weekday ADT and peak hour volumes, which can be expected for EAC (2026) traffic conditions for the affected intersections during interim conditions only, are shown on Exhibit 6-2.

#### 6.2.2 EAPC (2026) TRAFFIC CONDITIONS

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.09%, the addition of traffic generated by cumulative development projects, and the addition of Project traffic. The weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, which can be expected for EAPC (2026) traffic conditions are shown on Exhibit 6-3. The weekday ADT and peak hour volumes, which can be expected for EAPC (2026) traffic conditions for the affected intersections during interim conditions only, are shown on Exhibit 6-4.

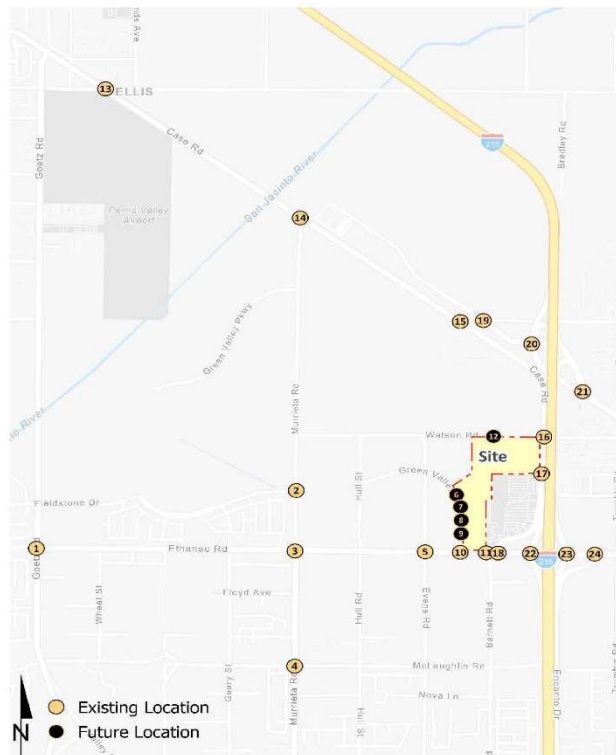
EXHIBIT 6-1: EAC (2026) TRAFFIC VOLUMES (ACTUAL VEHICLES) (1 OF 2)



1 Goetz Rd. & Ethanac Rd.		2 Murrieta Rd. & Green Valley Pkwy.		3 Murrieta Rd. & Ethanac Rd.		4 Murrieta Rd. & McLaughlin Rd.	
18,600	27,500	12,900	1,050	9,700	45,600	14,100	500
15(30) ← 230(355) 423(446) 25(16) 125(65) 11(10)	↑ 308(349) ← 67(90) ↑ 551(685) 11(10) → 453(258) 642(474)	92(135) ← 391(444) 135(139) 12(27) 178(110)	↑ 87(52) ← 25(18) ↑ 18(10) 81(157) 320(506)	73(65) ← 100(143) 413(355) 33(70) 1203(1245) 129(237)	↑ 251(485) ← 1067(1205) ↑ 205(261) 150(163) 120(126) 191(258)	4(4) ← 357(582) 13(15) 8(2) 0(1) 3(11)	↑ 13(5) ← 0(1) 6(6) 30(20) 411(473) 5(6)
3,050	24,400	6,650	14,650	36,850	18,600	500	14,050
5 Evans Rd. & Ethanac Rd.		6 Green Valley Pkwy. & Driveway 1		7 Green Valley Pkwy. & Driveway 2		8 Green Valley Pkwy. & Driveway 3	
	47,650	2,300		2,300		2,850	
1834(1846) 44(20)	← 1588(1913) ↑ 145(70) 8(37) → 37(126) ↑	← 131(88)	42(142) ↑	← 131(88)	42(142) ↑	← 131(88)	28(94) → 42(142) ↑
38,450	3,100	2,300	2,300	2,300	2,300	1,500	3,250
9 Green Valley Pkwy. & Driveway 4		10 Green Valley Pkwy. & Ethanac Rd.		11 Barrett Rd. & Ethanac Rd.		12 Driveway 5 & Watson Rd.	
3,800	1,400	45,700	300	54,350		700	
← 223(142)	↑ 70(236)	14(8) 209(134) ↑ 66(222) ← 1718(1975)	1(0)	← 1708(2157) ↑ 161(181)	← 20(41)		
	1867(1958) →	1870(2053) → 185(40)	24(41) → 0(1) ↑ 190(176) ↑	32(30) →			
3,800	42,400	2,350	50,700	5,450	700		

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

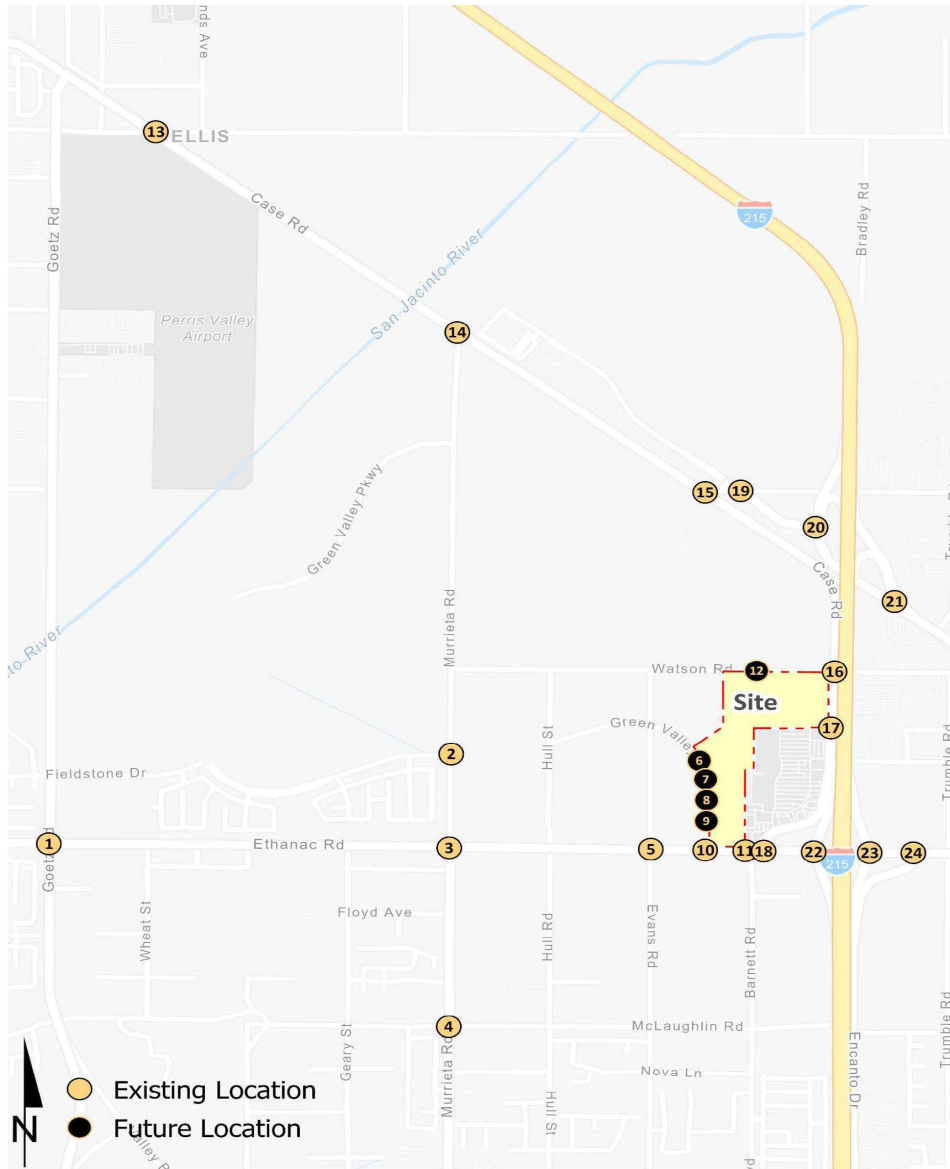
EXHIBIT 6-1: EAC (2026) TRAFFIC VOLUMES (ACTUAL VEHICLES) (2 OF 2)



13	Case Rd. & Ellis Av.	14	Murrieta Rd. & Case Rd.	15	Case Rd. & Mapes Rd.	16	Case Rd. & Watson Rd.
16,450	16,400	7,400	18,700	18,350	6,900	5,900	
↓ 303(513) ↑ 170(102) ↑ 154(162) ↓ 160(121) ↑ 371(446) ↓ 178(206) ↑ 294(262) ↓ 192(131) ↑ 404(389) ↓ 358(290)	↑ 154(162) ↓ 160(121) ↑ 371(446) ↓ 178(206) ↑ 294(262)	↓ 750(612) ↑ 198(598)	↓ 584(324) ↑ 94(306) ↓ 376(474) ↑ 111(235)	↓ 548(443) ↑ 1(0) ↓ 177(163) ↑ 81(188) ↓ 74(91)	↓ 20(41) ↑ 247(222) ↓ 32(30) ↑ 102(292)		
8,900	22,200	24,950	9,450	17,800	1,250	700	5,800
17	Case Rd. & Driveway 6	18	Case Rd. & Ethanac Rd.	19	Bonnie Dr. & Mapes Rd.	20	I-215 SB Ramps/SR-74 & Bonnie Dr.
5,500		19,100	59,200	550	10,950	30,350	
↓ 73(69) ↑ 173(153) ↓ 41(111)	↓ 13(16) ↑ 61(180)	↓ 110(244) ↓ 481(546) ↓ 183(234) ↑ 1877(1994)	↓ 461(509) ↑ 1758(2093)	↓ 14(3) ↑ 717(599)	↓ 184(108) ↑ 892(1232)	↓ 417(405) ↓ 366(496)	↓ 547(483) ↑ 662(575)
3,100	9,550	54,850	400	7,700	17,700	19,300	37,400
21	I-215 NB Ramps & SR-74	22	I-215 SB Ramps & Ethanac Rd.	23	I-215 NB Ramps & Ethanac Rd.	24	Encanto Dr. & Ethanac Rd.
23,950	51,450	24,900	47,550	10,700	42,200	6,800	43,150
↓ 230(210) ↑ 419(518) ↓ 182(118) ↑ 1077(1612)	↓ 1090(838) ↑ 979(858)	↓ 811(917) ↓ 1(0) ↓ 572(602) ↓ 1466(1614) ↓ 892(927)	↓ 0(2) ↓ 1407(1685) ↓ 159(419) ↓ 0(1)	↓ 459(702) ↓ 849(1215) ↓ 650(913) ↓ 1387(1303)	↓ 288(68) ↓ 194(185) ↓ 28(34) ↓ 1366(1517) ↓ 416(99)	↓ 77(17) ↓ 288(68) ↓ 194(185) ↓ 28(34) ↓ 1366(1517) ↓ 416(99)	↓ 51(95) ↓ 776(1586) ↓ 191(77)
38,200	550	54,900	9,300	51,650	23,250	43,000	10,150

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

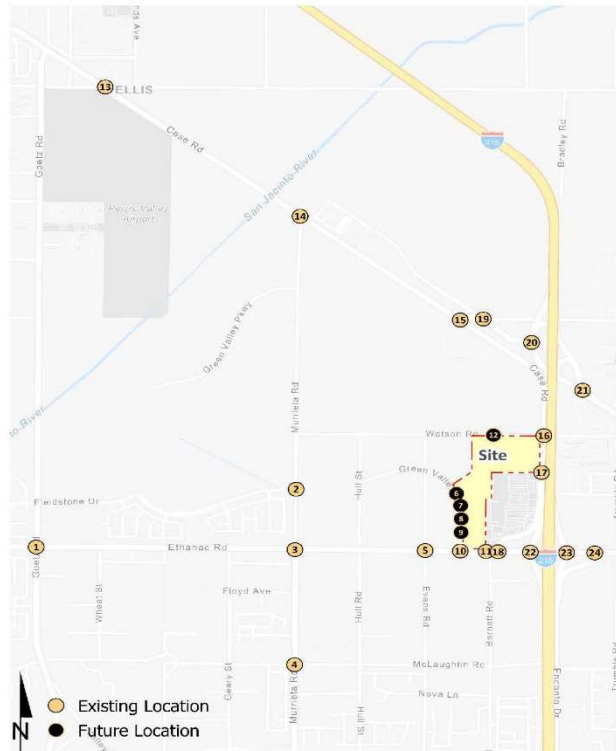
**EXHIBIT 6-2: EAC (2026) TRAFFIC VOLUMES (INTERIM CONDITIONS ONLY)**



5 Evans Rd. & Ethanac Rd.		10 Green Valley Pkwy. & Ethanac Rd.	
<b>49,050</b>		<b>45,700</b>	
← 1588(1913)		↑ 66(222)	
↑ 354(204)		← 1718(1975)	
-----		-----	
1834(1846) →	← 8(37)	4(14) ↗	2076(2092) →
44(20) ↓	↘ 37(126)		
<b>38,450</b>	<b>3,100</b>	<b>43,100</b>	<b>2,350</b>

##(##) AM(PM) Peak Hour Intersection Volumes  
**## Average Daily Trips**

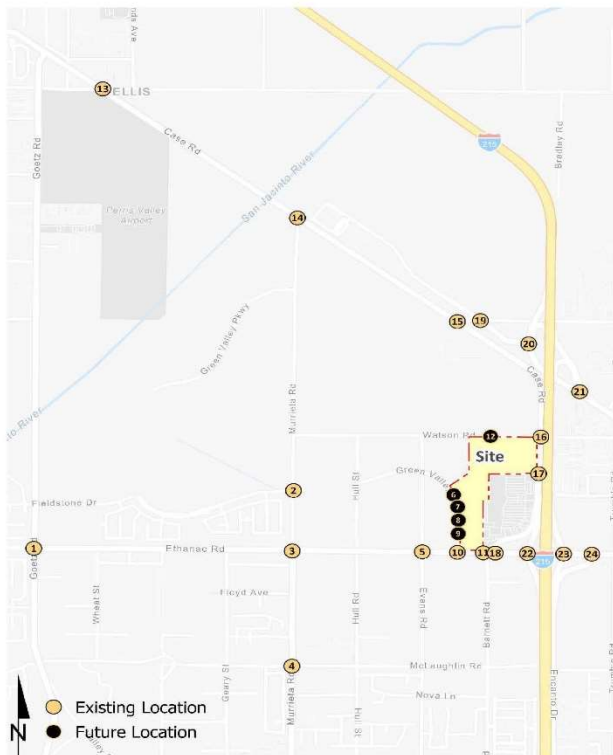
EXHIBIT 6-3: EAPC (2026) TRAFFIC VOLUMES (ACTUAL VEHICLES) (1 OF 2)



<b>1</b> Goetz Rd. & Ethanac Rd. <table border="1"> <tr> <td>18,900</td> <td>28,200</td> </tr> <tr> <td>15(30)</td> <td>322(371)</td> </tr> <tr> <td>230(355)</td> <td>76(93)</td> </tr> <tr> <td>452(465)</td> <td>566(708)</td> </tr> <tr> <td>25(16)</td> <td>11(10)</td> </tr> <tr> <td>136(72)</td> <td>453(258)</td> </tr> <tr> <td>11(10)</td> <td>673(494)</td> </tr> <tr> <td>3,150</td> <td>24,750</td> </tr> </table>	18,900	28,200	15(30)	322(371)	230(355)	76(93)	452(465)	566(708)	25(16)	11(10)	136(72)	453(258)	11(10)	673(494)	3,150	24,750	<b>2</b> Murrieta Rd. & Green Valley Pkwy. <table border="1"> <tr> <td>13,100</td> <td>1,050</td> </tr> <tr> <td>92(135)</td> <td>87(52)</td> </tr> <tr> <td>412(457)</td> <td>25(18)</td> </tr> <tr> <td>18(10)</td> <td>18(10)</td> </tr> <tr> <td>135(139)</td> <td>92(171)</td> </tr> <tr> <td>12(27)</td> <td>332(519)</td> </tr> <tr> <td>199(123)</td> <td>15,050</td> </tr> </table>	13,100	1,050	92(135)	87(52)	412(457)	25(18)	18(10)	18(10)	135(139)	92(171)	12(27)	332(519)	199(123)	15,050	<b>3</b> Murrieta Rd. & Ethanac Rd. <table border="1"> <tr> <td>10,100</td> <td>47,150</td> </tr> <tr> <td>73(65)</td> <td>275(512)</td> </tr> <tr> <td>100(143)</td> <td>1104(1254)</td> </tr> <tr> <td>455(382)</td> <td>229(288)</td> </tr> <tr> <td>33(70)</td> <td>150(163)</td> </tr> <tr> <td>1274(1290)</td> <td>120(126)</td> </tr> <tr> <td>129(237)</td> <td>233(285)</td> </tr> <tr> <td>37,500</td> <td>19,000</td> </tr> </table>	10,100	47,150	73(65)	275(512)	100(143)	1104(1254)	455(382)	229(288)	33(70)	150(163)	1274(1290)	120(126)	129(237)	233(285)	37,500	19,000	<b>4</b> Murrieta Rd. & McLaughlin Rd. <table border="1"> <tr> <td>14,500</td> <td>650</td> </tr> <tr> <td>4(4)</td> <td>30(16)</td> </tr> <tr> <td>370(598)</td> <td>0(1)</td> </tr> <tr> <td>23(26)</td> <td>6(6)</td> </tr> <tr> <td>8(2)</td> <td>30(20)</td> </tr> <tr> <td>0(1)</td> <td>435(488)</td> </tr> <tr> <td>3(11)</td> <td>5(6)</td> </tr> <tr> <td>500</td> <td>14,300</td> </tr> </table>	14,500	650	4(4)	30(16)	370(598)	0(1)	23(26)	6(6)	8(2)	30(20)	0(1)	435(488)	3(11)	5(6)	500	14,300
18,900	28,200																																																																
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<b>5</b> Evans Rd. & Ethanac Rd. <table border="1"> <tr> <td>49,150</td> <td>150</td> </tr> <tr> <td>1673(2015)</td> <td>131(88)</td> </tr> <tr> <td>145(70)</td> <td>42(142)</td> </tr> <tr> <td>1888(1944)</td> <td>10(14)</td> </tr> <tr> <td>44(20)</td> <td>52(156)</td> </tr> <tr> <td>8(37)</td> <td>8(5)</td> </tr> <tr> <td>37(126)</td> <td>17(16)</td> </tr> <tr> <td>3,100</td> <td>350</td> </tr> </table>	49,150	150	1673(2015)	131(88)	145(70)	42(142)	1888(1944)	10(14)	44(20)	52(156)	8(37)	8(5)	37(126)	17(16)	3,100	350	<b>6</b> Green Valley Pkwy. & Driveway 1 <table border="1"> <tr> <td>2,300</td> <td>150</td> </tr> <tr> <td>131(88)</td> <td>42(142)</td> </tr> <tr> <td>10(14)</td> <td>52(156)</td> </tr> <tr> <td>8(37)</td> <td>8(5)</td> </tr> <tr> <td>37(126)</td> <td>17(16)</td> </tr> <tr> <td>3,100</td> <td>350</td> </tr> </table>	2,300	150	131(88)	42(142)	10(14)	52(156)	8(37)	8(5)	37(126)	17(16)	3,100	350	<b>7</b> Green Valley Pkwy. & Driveway 2 <table border="1"> <tr> <td>2,450</td> <td>Nominal</td> </tr> <tr> <td>131(88)</td> <td>52(156)</td> </tr> <tr> <td>8(5)</td> <td>17(16)</td> </tr> <tr> <td>3,050</td> <td>350</td> </tr> </table>	2,450	Nominal	131(88)	52(156)	8(5)	17(16)	3,050	350	<b>8</b> Green Valley Pkwy. & Driveway 3 <table border="1"> <tr> <td>3,050</td> <td>350</td> </tr> <tr> <td>131(88)</td> <td>42(142)</td> </tr> <tr> <td>10(14)</td> <td>52(156)</td> </tr> <tr> <td>8(37)</td> <td>8(5)</td> </tr> <tr> <td>37(126)</td> <td>17(16)</td> </tr> <tr> <td>3,100</td> <td>350</td> </tr> </table>	3,050	350	131(88)	42(142)	10(14)	52(156)	8(37)	8(5)	37(126)	17(16)	3,100	350														
49,150	150																																																																
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<b>9</b> Green Valley Pkwy. & Driveway 4 <table border="1"> <tr> <td>4,350</td> <td>2,350</td> </tr> <tr> <td>240(158)</td> <td>107(267)</td> </tr> <tr> <td>223(145)</td> <td>223(145)</td> </tr> <tr> <td>6,700</td> <td>6,700</td> </tr> </table>	4,350	2,350	240(158)	107(267)	223(145)	223(145)	6,700	6,700	<b>10</b> Green Valley Pkwy. & Ethanac Rd. <table border="1"> <tr> <td>4,350</td> <td>47,450</td> </tr> <tr> <td>21(15)</td> <td>205(313)</td> </tr> <tr> <td>219(144)</td> <td>1796(2071)</td> </tr> <tr> <td>125(98)</td> <td>1900(1973)</td> </tr> <tr> <td>43,900</td> <td>2,350</td> </tr> </table>	4,350	47,450	21(15)	205(313)	219(144)	1796(2071)	125(98)	1900(1973)	43,900	2,350	<b>11</b> Barrett Rd. & Ethanac Rd. <table border="1"> <tr> <td>300</td> <td>55,000</td> </tr> <tr> <td>1(0)</td> <td>1836(2304)</td> </tr> <tr> <td>170(184)</td> <td>170(184)</td> </tr> <tr> <td>1912(2076)</td> <td>36(49)</td> </tr> <tr> <td>186(41)</td> <td>0(1)</td> </tr> <tr> <td>190(176)</td> <td>5(5)</td> </tr> <tr> <td>51,300</td> <td>5,600</td> </tr> </table>	300	55,000	1(0)	1836(2304)	170(184)	170(184)	1912(2076)	36(49)	186(41)	0(1)	190(176)	5(5)	51,300	5,600	<b>12</b> Driveway 5 & Watson Rd. <table border="1"> <tr> <td>800</td> <td>100</td> </tr> <tr> <td>20(41)</td> <td>5(5)</td> </tr> <tr> <td>5(5)</td> <td>5(5)</td> </tr> <tr> <td>700</td> <td>100</td> </tr> </table>	800	100	20(41)	5(5)	5(5)	5(5)	700	100																						
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##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

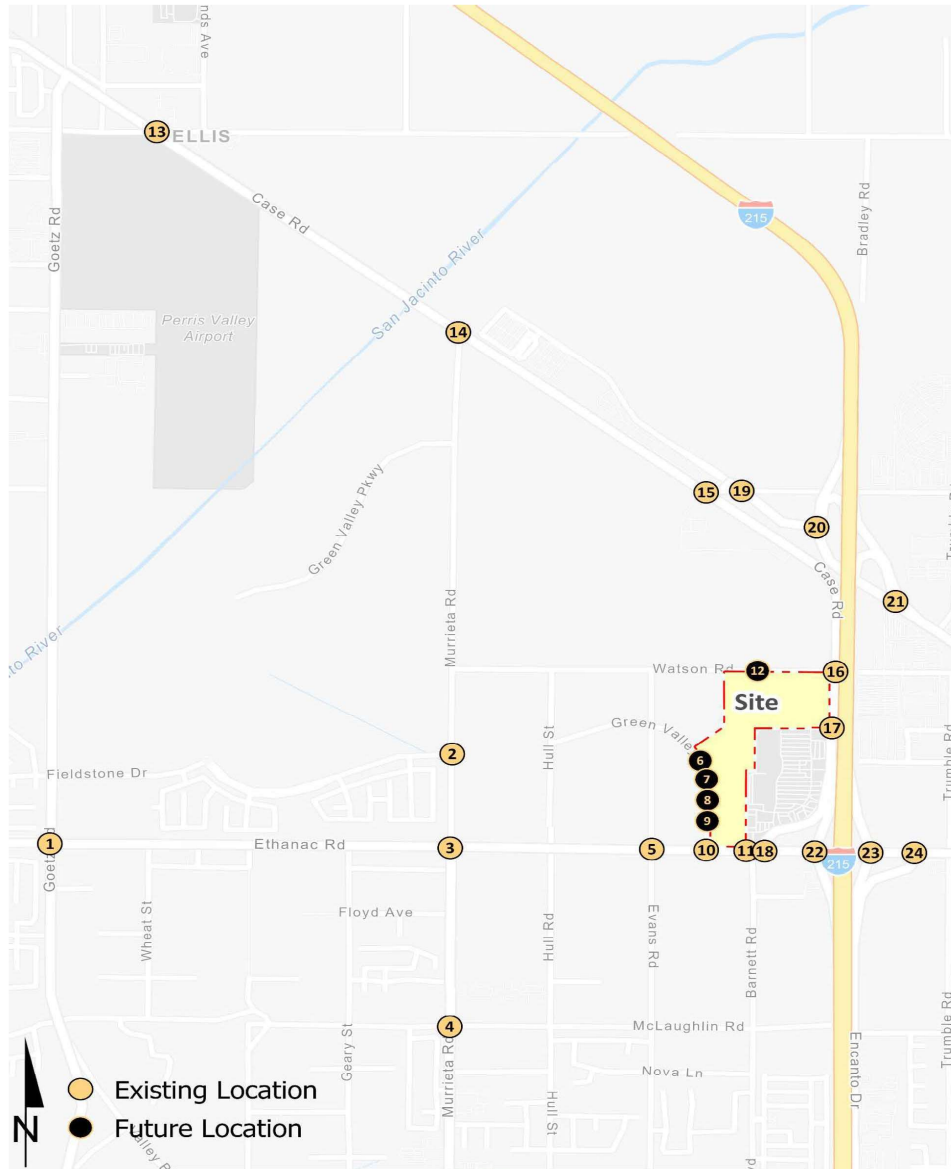
EXHIBIT 6-3: EAPC (2026) TRAFFIC VOLUMES (ACTUAL VEHICLES) (2 OF 2)



13	Case Rd. & Ellis Av.	14	Murrieta Rd. & Case Rd.	15	Case Rd. & Mapes Rd.	16	Case Rd. & Watson Rd.
16,750	16,700	7,400	19,250	19,800	8,950	7,950	
← 333(532) ↑ 170(102)	↑ 154(162) ← 160(121) ↑ 400(465)		← 612(369) ↑ 94(306)	↑ 548(443) ← 1(0) ↑ 332(267)	↑ 126(341) ← 102(136)	← 25(46) ← 456(359)	
178(206) → 294(262) ↓	↑ 192(131) ↑ 418(412) ↑ 372(312)	809(650) → 198(598) ↓	↑ 376(474) ↑ 111(235)	695(706) ← 142(131) →	↑ 0(1) ↑ 1(1)	37(35) ←	170(485) ↑
8,900	22,800	25,550	9,450	18,350	1,250	800	7,700
17	Case Rd. & Driveway 6	18	Case Rd. & Ethanac Rd.	19	Bonnie Dr. & Mapes Rd.	20	I-215 SB Ramps/SR-74 & Bonnie Dr.
7,450		22,050	62,050	550	12,400	30,950	
← 248(186) ← 208(173)		← 137(326) ← 620(716)	↑ 565(577) ← 1867(2161)		← 14(3) ↑ 872(703)	← 308(191) ← 892(1232)	
81(294) ← 57(222) ↓	↑ 186(130) ↑ 89(190)	252(280) ← 1886(2003) →		7(10) → 8(7) ↓	↑ 1(5) 821(1047) ↑	419(407) ← 409(647) ↓	578(514) ↑ 662(575) ↑
6,400	5,600	56,250	400	7,700	19,200	20,750	38,300
21	I-215 NB Ramps & SR-74	22	I-215 SB Ramps & Ethanac Rd.	23	I-215 NB Ramps & Ethanac Rd.	24	Encanto Dr. & Ethanac Rd.
24,550	51,750	25,150	48,800	10,950	42,600	6,800	43,450
← 232(212) ↑ 419(518)	↑ 1090(838) ← 1008(877)	← 860(947) ← 1(0) ↑ 572(602)	↑ 0(2) ← 1572(1791) ↑ 159(419)		↑ 459(702) ← 891(1242)	← 77(17) ← 288(66) ↑ 194(185)	↑ 51(95) ← 807(1606) ↑ 191(77)
212(247) ← 1091(1634) →		1529(1658) → 941(1030) ↓	0(1) ↑	690(930) ↓ 1411(1330) →	↑ 838(970) ↑ 3(3) ↑ 423(347)	28(34) ← 1381(1540) → 425(102) ↓	466(321) ↑ 213(88) ↑ 126(99) ↑
39,100	550	56,950	9,850	52,900	26,800	43,400	10,250

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

**EXHIBIT 6-4: EAPC (2026) TRAFFIC VOLUMES (INTERIM CONDITIONS ONLY)**



● Existing Location  
● Future Location

5 Evans Rd. & Ethanac Rd.		10 Green Valley Pkwy. & Ethanac Rd.	
50,800		47,450	
← 1673(2015) ↑ 364(214)		↑ 205(313) ← 1796(2071)	
1988(1944) → 44(20) ↓	8(37) ↑ 37(126) ↓	125(98) ↑ 2119(2116) →	
<b>39,950</b>	<b>3,100</b>	<b>44,850</b>	<b>2,350</b>

###(###) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

### 6.3 INTERSECTION OPERATIONS ANALYSIS

EAC and EAPC (2026) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 6-1 for EAC and EAPC (2026) traffic conditions, which indicates that the following study area intersections are anticipated to operate at an unacceptable LOS during the peak hours under EAC (2026) traffic conditions:

- Goetz Road & Ethanac Road (#1) – LOS F AM and PM peak hours
- Murrieta Road & Green Valley Parkway (#2) – LOS F PM peak hour only
- Murrieta Road & Ethanac Road (#3) – LOS F AM and PM peak hours
- Evans Road & Ethanac Road (#5) – LOS F AM and PM peak hours
- Green Valley Parkway & Ethanac Road (#10) – LOS F AM and PM peak hours
- Case Road & Ellis Avenue (#13) – LOS F AM and PM peak hours
- Murrieta Road & Case Road (#14) – LOS F AM and PM peak hours
- Case Road & Mapes Road (#15) – LOS F AM and PM peak hours
- I-215 Southbound Ramps/SR-74 & Bonnie Drive (#20) – LOS F AM and PM peak hours
- I-215 Southbound Ramps & Ethanac Road (#22) – LOS F AM and PM peak hours
- I-215 Northbound Ramps & Ethanac Road (#23) – LOS F AM and PM peak hours
- Encanto Drive & Ethanac Road (#24) – LOS F AM and PM peak hours

The intersection of Murrieta Road and Green Valley Parkway (#2) is anticipated to operate at an unacceptable LOS (LOS E) during the AM peak hour with the addition of Project traffic under EAPC (2026) traffic conditions in addition to the deficient locations identified under EAC (2026) traffic conditions. The intersections affected during interim conditions only, which are Evans Road & Ethanac Road (#5) and Green Valley Parkway & Ethanac Road (#19), are anticipated to operate at an unacceptable LOS, without intersections improvements, for both interim conditions and the final conditions, as shown in Table 6-1. The intersection operations analysis worksheets for EAC and EAPC (2026) traffic conditions are included in Appendices 6.1 and 6.2, respectively. The intersection operations analysis worksheets for EAC and EAPC (2026) traffic conditions, for interim conditions only, are included in Appendices 6.3 and 6.4, respectively.

**TABLE 6-1: INTERSECTION ANALYSIS FOR EAC AND EAPC (2026) CONDITIONS**

# Intersection	Traffic Control <sup>2</sup>	EAC (2026)				EAPC (2026)			
		Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM
1 Goetz Rd. & Ethanac Rd.	TS	<b>173.7</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>	<b>187.5</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
2 Murrieta Rd. & Green Valley Pkwy.	CSS	30.1	<b>&gt;100.0</b>	D	<b>F</b>	<b>35.1</b>	<b>&gt;100.0</b>	<b>E</b>	<b>F</b>
3 Murrieta Rd. & Ethanac Rd.	TS	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
4 Murrieta Rd. & McLaughlin Rd.	CSS	18.1	22.0	C	C	19.9	18.3	C	C
5 Evans Rd. & Ethanac Rd.	CSS	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
- Interim Condition	CSS	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
6 Green Valley Pkwy. & Driveway 1	<u>CSS</u>	Future Intersection				0.0	0.0	A	A
7 Green Valley Pkwy. & Driveway 2	<u>CSS</u>	Future Intersection				0.0	0.0	A	A
8 Green Valley Pkwy. & Driveway 3	<u>CSS</u>	9.4	9.0	A	A	10.5	12.5	B	B
9 Green Valley Pkwy. & Driveway 4	<u>CSS</u>	Future Intersection				0.0	0.0	A	A
10 Green Valley Pkwy. & Ethanac Rd.	<u>CSS</u>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
- Interim Condition	<u>CSS</u>	<b>78.9</b>	<b>57.2</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>85.4</b>	<b>F</b>	<b>F</b>
11 Barrett Rd. & Ethanac Rd.	TS	17.1	33.0	B	C	19.0	46.8	B	D
12 Driveway 5 & Watson Rd.	<u>CSS</u>	Future Intersection				8.5	8.5	A	A
13 Case Rd. & Ellis Av.	TS	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
14 Murrieta Rd. & Case Rd.	AWS	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
15 Case Rd. & Mapes Rd.	AWS	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
16 Case Rd. & Watson Rd.	CSS/AWS	11.1	14.5	B	B	13.0	20.4	B	C
17 Case Rd. & Driveway 6	CSS	10.5	11.8	B	B	15.3	30.8	C	D
18 Case Rd. & Ethanac Rd.	TS	17.3	22.2	B	C	25.2	36.8	C	D
19 Bonnie Dr. & Mapes Rd.	TS	25.6	21.7	C	C	54.6	29.5	D	C
20 I-215 SB Ramps/SR-74 & Bonnie Dr.	TS	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
21 I-215 NB Ramps & SR-74	TS	42.3	45.2	D	D	49.5	51.3	D	D
22 I-215 SB Ramps & Ethanac Rd.	TS	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
23 I-215 NB Ramps & Ethanac Rd.	TS	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
24 Encanto Dr. & Ethanac Rd.	CSS	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>2</sup> CSS = Cross-street Stop; TS = Traffic Signal; AWS = All-Way Stop; CSS = Improvement

## 6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed for EAC (2026) traffic conditions based on peak hour intersection turning movement volumes or planning level (ADT) volumes. The following unsignalized study area intersections are anticipated to meet a traffic signal warrant under EAC (2026) traffic conditions, in addition to the intersections identified previously under E+P traffic conditions:

- Murrieta Road & Green Valley Parkway (#2)
- Evans Road & Ethanac Road (#5)
- Murrieta Road & Case Road (#14)

The following additional study area intersection is anticipated to meet a traffic signal warrant under EAPC (2026) traffic conditions, with the addition of Project traffic:

- Murrieta Road & McLaughlin Road (#4)

EAC and EAPC (2026) traffic signal warrant analysis worksheets are provided in Appendices 6.5 and 6.6, respectively.

## 6.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for EAC and EAPC (2026) are presented in Table 6-2. As shown in Table 6-2, the following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under EAC (2026) traffic conditions:

- I-215 Southbound Ramps & Ethanac Road (#22) southbound right – AM and PM peak hours
- I-215 Northbound Ramps & Ethanac Road (#23) northbound right – AM and PM peak hours

The following additional movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows with the addition of project traffic under EAPC (2026) traffic conditions:

- I-215 Southbound Ramps/SR-74 & Bonnie Drive (#20) southbound right – AM and PM peak hours
- I-215 Northbound Ramps & Ethanac Road (#23) northbound shared left-through – PM peak hour only

Worksheets for EAC and EAPC (2026) traffic conditions queuing analysis are provided in Appendices 6.7 and 6.8, respectively.

**TABLE 6-2: PEAK HOUR OFF-RAMP QUEUING SUMMARY FOR EAC AND EAPC (2026) CONDITIONS**

# Intersection	Movement	Available Stacking Distance (Feet)	EAC (2026)				EAPC (2026)			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
20 I-215 SB Ramps/SR-74 & Bonnie Dr.	SBT	1445	1134 <sup>2</sup>	1802 <sup>2</sup>	Yes	<b>No</b>	1134 <sup>2</sup>	1815 <sup>2</sup>	Yes	<b>No</b>
	SBR	155	125	148	Yes	Yes	204	219	<b>No</b>	<b>No</b>
21 I-215 NB Ramps & SR-74	SBL/R	1465	793 <sup>2</sup>	980 <sup>2</sup>	Yes	Yes	815 <sup>2</sup>	1162 <sup>2</sup>	Yes	Yes
22 I-215 SB Ramps & Ethanac Rd.	SBT	1375	801 <sup>2</sup>	781 <sup>2</sup>	Yes	Yes	801 <sup>2</sup>	781 <sup>2</sup>	Yes	Yes
	SBR	240	1195 <sup>2</sup>	1246 <sup>2</sup>	<b>No</b>	<b>No</b>	1270 <sup>2</sup>	1290 <sup>2</sup>	<b>No</b>	<b>No</b>
23 I-215 NB Ramps & Ethanac Rd.	NBL/T	1325	1029 <sup>2</sup>	1255 <sup>2</sup>	Yes	Yes	1209 <sup>2</sup>	1376 <sup>2</sup>	Yes	<b>No</b>
	NBR	270	481 <sup>2</sup>	316 <sup>2</sup>	<b>No</b>	<b>No</b>	481 <sup>2</sup>	316 <sup>2</sup>	<b>No</b>	<b>No</b>

**BOLD** = 95th percentile queue exceeds the available storage.

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

## 6.6 DEFICIENCIES AND IMPROVEMENTS

Improvements needed to achieve acceptable LOS have been identified at intersections or off-ramps anticipated to operate at a deficient LOS under EAC and EAPC (2026) traffic conditions.

### 6.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Based on the City of Perris deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, roadway intersections were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are shown in Table 6-3. Table 6-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under EAPC (2026) traffic conditions. The improvements have been identified to improve the EAPC (2026) deficiencies back to acceptable levels. It should be noted that, as mentioned previously, the buildout of the Perris Towne Center project will include the closure of Encanto Drive at Ethanac Road, according to the City of Perris. As such, the improvement at this intersection is only required if the intersection is not vacated by the Perris Towne Center project, as indicated in Table 6-3. However, the Project Applicant should enter into an agreement with the City to fund the recommended traffic signal improvement in the event that the intersection is not eliminated. Intersection analysis worksheets for EAPC (2026) traffic conditions, with improvements, are provided in Appendix 6.9.

### 6.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

Improvement strategies have been recommended at study area off-ramps that have been identified as deficient under EAPC (2026) traffic conditions. The improvements are consistent with the intersection improvements identified in Table 6-3. The effectiveness of the recommended improvement strategies to address EAPC (2026) off-ramp deficiencies are presented in Table 6-4. Off-ramp queueing analysis worksheets for EAPC (2026) conditions, with improvements, are provided in Appendix 6.10.

**TABLE 6-3: INTERSECTION ANALYSIS FOR EAPC (2026) CONDITIONS WITH IMPROVEMENTS**

# Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
1 Goetz Rd. & Ethanac Rd.																	
Without Improvements	TS	1	1	1	1	2	1	1	2	1	1	3	0	<b>187.5</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
With Improvements	TS	1	1	1	<b>2</b>	2	1	1	2	1	<b>2</b>	3	0	39.5	48.8	D	D
2 Murrieta Rd. & Green Valley Pkwy.																	
Without Improvements	CSS	1	1	0	0	1	1	1	0	1	0	0	0	<b>35.1</b>	<b>&gt;100.0</b>	<b>E</b>	<b>F</b>
With Improvements	<b>TS</b>	1	1	0	0	1	1	1	0	1	0	0	0	11.6	11.8	B	B
3 Murrieta Rd. & Ethanac Rd.																	
Without Improvements	TS	0	1	0	0	1	1	1	2	0	1	2	0	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
With Improvements	TS	1	1	0	<b>2</b>	1	1	1	2	0	1	2	<b>1</b>	54.3	49.4	D	D
5 Evans Rd. & Ethanac Rd.																	
Without Improvements	CSS	0	1	0	0	0	0	0	2	0	1	2	0	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
With Improvements	<b>TS</b>	0	1	0	0	0	0	0	2	0	1	2	0	7.7	14.1	A	B
10 Green Valley Pkwy. & Ethanac Rd.																	
Without Improvements	CSS	0	0	0	1	0	1	1	2	0	0	2	1	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
With Improvements	<b>TS</b>	0	0	0	1	0	1	1	2	0	0	2	1	17.8	15.3	B	B
13 Case Rd. & Ellis Av.																	
Without Improvements	TS	0	1	1	1	1	0	0	1	0	0	1	0	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
With Improvements	TS	<b>1</b>	1	1	1	1	0	<b>1</b>	1	<b>1</b>	<b>1</b>	1	0	49.6	54.3	D	D
14 Murrieta Rd. & Case Rd.																	
Without Improvements	CSS	1	0	1	0	0	0	0	1	1	1	1	0	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
With Improvements	<b>TS</b>	1	0	1	0	0	0	0	<b>2</b>	1	1	<b>2</b>	0	14.2	34.3	B	C
15 Case Rd. & Mapes Rd.																	
Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
With Improvements	<b>TS</b>	0	1	0	0	1	0	<b>2</b>	1	0	0	1	0	33.0	54.4	C	D
17 Case Rd. & Driveway 6																	
Without Improvements	CSS	1	2	0	0	1	1	1	0	1	0	0	0	15.3	30.8	C	D
With Improvements <sup>5</sup>	<b>TS</b>	1	2	0	0	1	1	1	0	1	0	0	0	11.9	13.6	B	B
20 I-215 SB Ramps/SR-74 & Bonnie Dr.																	
Without Improvements	TS	1	1	0	0	1	1	0	1	0	0	0	0	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
With Improvements	TS	<b>2</b>	1	0	0	<b>2</b>	1	0	1	0	0	0	0	29.3	54.8	C	D
22 I-215 SB Ramps & Ethanac Rd.																	
Without Improvements	TS	0	0	0	0	1	1	0	1	1	1	2	0	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
With Improvements	TS	0	0	0	<b>1</b>	1	1	0	<b>2</b>	1	<b>2</b>	2	0	16.8	28.1	B	C
23 I-215 NB Ramps & Ethanac Rd.																	
Without Improvements	TS	0	1	1	0	0	0	1	1	0	0	1	0	<b>&gt;200.0</b>	<b>&gt;200.0</b>	<b>F</b>	<b>F</b>
With Improvements	TS	1	1	1	0	0	0	<b>2</b>	<b>2</b>	0	0	<b>2</b>	1	30.5	54.9	C	D
24 Encanto Dr. & Ethanac Rd.																	
Without Improvements	CSS	0	1	0	0	0	0	0	1	0	1	1	0	<b>&gt;100.0</b>	<b>&gt;100.0</b>	<b>F</b>	<b>F</b>
With Improvements <sup>4</sup>	<b>TS</b>	0	1	0	0	0	0	0	<b>2</b>	<b>1</b>	1	<b>2</b>	0	37.7	21.3	D	C

\* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> CSS = Cross-Street Stop; TS = Traffic Signal; **TS** = Improvement

<sup>4</sup> Improvements are only required if this intersection is not vacated by the Perris Towne Center Project.

<sup>5</sup> Traffic signal improvement included by request of the City. The intersection is anticipated to operate at an acceptable LOS as unsignalized and does not require signalization based on the intersection operations analysis.

**TABLE 6-4: PEAK HOUR QUEUING SUMMARY FOR EAPC (2026) CONDITIONS WITH IMPROVEMENTS**

#	Intersection	Movement	Available Stacking Distance (Feet)	Without Improvements				With Improvements			
				95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
				AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
20	I-215 SB Ramps/SR-74 & Bonnie Dr.	SBT	1445	1134 <sup>2</sup>	1815 <sup>2</sup>	Yes	No	476	740 <sup>2</sup>	Yes	Yes
		SBR	155	204	219	No	No	177 <sup>3</sup>	641 <sup>3</sup>	Yes	Yes
22	I-215 SB Ramps & Ethanac Rd.	SBL	<u>800</u>	Not Applicable				685 <sup>2</sup>	787 <sup>2</sup>	Yes	Yes
		SBT	1375	801 <sup>2</sup>	781 <sup>2</sup>	Yes	Yes	705 <sup>2</sup>	740 <sup>2</sup>	Yes	Yes
		SBR	240	1270 <sup>2</sup>	1290 <sup>2</sup>	No	No	596 <sup>2,3</sup>	641 <sup>2,3</sup>	Yes	Yes
23	I-215 NB Ramps & Ethanac Rd.	NBL	<u>700</u>	Not Applicable				471 <sup>2</sup>	697 <sup>2</sup>	Yes	Yes
		NBL/T	1325	1209 <sup>2</sup>	1376 <sup>2</sup>	Yes	No	475 <sup>2</sup>	705 <sup>2</sup>	Yes	Yes
		NBR	270	481 <sup>2</sup>	316 <sup>2</sup>	No	No	373 <sup>2,3</sup>	367 <sup>2,3</sup>	Yes	Yes

**BOLD** = 95th percentile queue exceeds the available storage.

Underline = Improvement

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

### 6.6.3 ETHANAC ROAD QUEUING OVER I-215 INTERCHANGE

A queuing analysis was conducted along Ethanac Road over the I-215 interchange to determine the turn pocket lengths necessary to accommodate 95<sup>th</sup> percentile queues without spillover to the Ethanac through lanes. The analysis was conducted for the weekday AM and weekday PM peak hours under EAPC (2026) conditions, with improvements. The results have been provided in Appendix 6.11 and a summary of the queuing analysis results for the recommended or available turn pockets is shown in Table 6-5. As shown in Table 6-5, no queuing issues are anticipated along Ethanac Road, over the I-215, with the recommended stacking distance of 300 feet of storage for the westbound left-turn pockets onto the I-215 southbound ramps and 310 feet of storage for the eastbound left-turn pockets onto the I-215 northbound ramps.

**TABLE 6-5: ETHANAC ROAD QUEUING ANALYSIS**

Intersection	Movement	Recommended Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Ethanac Rd.	WBL	<u>300</u>	232	273	Yes	Yes
I-215 NB Ramps & Ethanac Rd.	EBL	<u>310</u>	287	304	Yes	Yes

Underline = Improvement

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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## 7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Perris are funded through a combination of project mitigation, development impact fee programs or fair share contributions, such as the City of Perris Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

### 7.1 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

The Western Riverside Council of Governments (WRCOG) is responsible for establishing and updating TUMF rates. The County may grant developers a credit against the specific components of fees for the dedication of land or the construction of facilities identified in the list of improvements funded by each of these fee programs. Fees are based upon projected land uses and a related transportation need to address growth based upon a 2016 Nexus study.

TUMF is an ambitious regional program created to address cumulative impacts of growth throughout western Riverside County. Program guidelines are being handled on an iterative basis. Exemptions, credits, reimbursements, and local administration are being deferred to primary agencies. The County of Riverside serves this function for the proposed Project. Fees submitted to the County are passed on to the WRCOG as the ultimate program administrator.

TUMF guidelines empower a local zone committee to prioritize and arbitrate certain projects. The Project is located in the Central Zone. The zone has developed a 5-year capital improvement program to prioritize public construction of certain roads. TUMF is focused on improvements necessitated by regional growth.

### 7.2 CITY OF PERRIS DEVELOPMENT IMPACT FEE (DIF) PROGRAM

In 1991, the City of Perris created a Development Impact Fee program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. This DIF program has been successfully implemented by the City since 1991 and was updated in 2014. The City updated the DIF program to add new roadway segments and intersections necessary to accommodate future growth and to ensure that the identified street improvements would operate at or above the City's LOS performance threshold. The City's DIF program includes facilities that are not part of, or which may exceed improvements identified and covered by the TUMF program. As a result, the pairing of the regional and local fee programs provides a more comprehensive funding and implementation plan to ensure an adequate and interconnected transportation system. Under the City's DIF program, the City may grant developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

Similar to the TUMF Program, after the City's DIF fees are collected, they are placed in a separate interest-bearing account pursuant to the requirements of Government Code sections 66000 *et seq.* The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and

consultants. The City uses this data to determine the timing of the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance thresholds. The City's DIF program establishes a timeline to fund, design, and build the improvements.

The City has an established, proven track record with respect to implementing the City's DIF Program. Many of the roadway segments and intersections included within the study area for this TA are at various stages of widening and improvement based on the City's collection of DIF fees. Under this Program, as a result of the City's continual monitoring of the local circulation system, the City ensures that DIF improvements are constructed prior to when the LOS would otherwise fall below the City's established performance criteria.

### **7.3 FAIR SHARE CONTRIBUTION**

Project improvements may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City's discretion). When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, for the applicable deficient study area intersection are provided in Table 7-1. These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

According to the City, Barnett Road and Case Road at Ethanac Road (Intersections #11 and #18, respectively) are to be aligned in the future. As such, fair share percentages for both intersections have been included in Table 7-1.

As previously stated, the Project would have a "direct" impact at Encanto Drive and Ethanac Road (#24) based on the City's guidelines. As such, the improvement to install a traffic signal would fall under construct obligation for the Project's responsibility. The intersection may be vacated by the Perris Towne Center project, in which case improvements would not be required. However, the Project Applicant should enter into an agreement with the City to fund the recommended traffic signal improvement in the event that the intersection is not eliminated.

**TABLE 7-1: PROJECT FAIR SHARE CALCULATIONS FOR INTERSECTIONS**

#	Intersection	Existing	Project	EAPC (2026)	Total New Traffic	Project % of New Traffic	
1	Goetz Rd. & Ethanac Rd.	AM:	1,782	109	3,093	1,311	<b>8.3%</b>
		PM:	1,616	94	2,974	1,358	6.9%
2	Murrieta Rd. & Green Valley Pkwy.	AM:	392	65	1,411	1,019	<b>6.4%</b>
		PM:	391	53	1,653	1,262	4.2%
3	Murrieta Rd. & Ethanac Rd.	AM:	1,745	240	4,265	2,520	<b>9.5%</b>
		PM:	1,850	202	4,868	3,018	6.7%
5	Evans Rd. & Ethanac Rd.	AM:	1,565	239	3,988	2,423	<b>9.9%</b>
		PM:	1,447	200	4,290	2,843	7.0%
10	Green Valley Pkwy. & Ethanac Rd.	AM:	1,564	388	4,360	2,796	<b>13.9%</b>
		PM:	1,446	303	4,693	3,247	9.3%
11	Barrett Rd. & Ethanac Rd.	AM:	1,865	192	4,495	2,630	<b>7.3%</b>
		PM:	1,743	182	4,972	3,229	5.6%
13	Case Rd. & Ellis Av.	AM:	925	87	2,803	1,878	<b>4.6%</b>
		PM:	983	84	3,084	2,101	4.0%
14	Murrieta Rd. & Case Rd.	AM:	622	88	2,326	1,704	<b>5.2%</b>
		PM:	799	84	3,022	2,223	3.8%
15	Case Rd. & Mapes Rd.	AM:	650	303	2,081	1,431	21.2%
		PM:	784	355	2,410	1,626	<b>21.8%</b>
17	Case Rd. & Driveway 6	AM:	299	497	882	583	<b>85.2%</b>
		PM:	415	640	1,202	787	81.3%
18	Case Rd. & Ethanac Rd.	AM:	2,499	457	5,506	3,007	<b>15.2%</b>
		PM:	2,620	443	6,193	3,573	12.4%
20	I-215 SB Ramps/SR-74 & Bonnie Dr.	AM:	1,635	215	3,582	1,947	11.0%
		PM:	1,849	270	4,017	2,168	<b>12.5%</b>
22	I-215 SB Ramps & Ethanac Rd.	AM:	2,452	326	5,834	3,382	<b>9.6%</b>
		PM:	2,563	283	6,593	4,030	7.0%
23	I-215 NB Ramps & Ethanac Rd.	AM:	2,035	229	4,801	2,766	<b>8.3%</b>
		PM:	2,166	151	5,600	3,434	4.4%
24	Encanto Dr. & Ethanac Rd.	AM:	2,515	66	4,247	1,732	<b>3.8%</b>
		PM:	2,065	53	4,230	2,165	2.4%

**BOLD** = Denotes highest fair share percentage.

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