HARMONY GROVE VILLAGE SOUTH

APPENDIX D

TRAFFIC IMPACT ANALYSIS

to the

DRAFT ENVIRONMENTAL IMPACT REPORT

PDS2015-GPA-15-002; PDS2015-SP-15-002
PDS2015-TM-5600; PDS2015-REZ-15-003
PDS2015-MUP-15-008; PDS2015-ER-15-08-006

APRIL 2017

Prepared for:
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TRAFFIC IMPACT ANALYSIS
HARMONY GROVE VILLAGE SOUTH

County of San Diego, California
April 6, 2017

Prepared for the County of San Diego

PSD2015-SP-15-002

LLG Ref. 3-14-2314

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EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has been retained to assess the traffic impacts associated with the proposed Harmony Grove Village South Project. The Project is located east of Country Club Drive and south of Harmony Grove Road in the San Dieguito Planning Community in the County of San Diego. The study area surrounding the Project site includes roadways located in the County of San Diego and City of Escondido jurisdictions.

The property is currently zoned RR and A70 with minimum lot sizes of 0.5 acres. The adopted *General Plan* designation is SR-05, and the Regional Category is Semi-Rural. The Project would require a General Plan Amendment to redesignate a portion of the Project site to Village- Regional Category (53 acres) and change the Land Use Designation to Residential (VR-10.9) and Neighborhood Commercial (NC). The remaining 58 acres will remain designated as Semi-Rural Regional Category.

The project consists of a mix of residential, commercial/civic and institutional uses, along with parks and open space. Specifically, the project proposes to construct 450 dwelling units that consist of single-family detached, single-family attached and multi-family residential uses and a small community center with commercial/civic uses (the Center House). The total square footage of structure associated with the Center House would be approximately 5,000 square feet, with a minimum of 1,500 square feet devoted to commercial uses. The commercial/civic land uses include a community-civic serving component such as for parks, overnight accommodations of up to 4 rooms that can only be used by HGVS and HGV guests, a gym, an event lawn, and recreational facilities like a pool or clubhouse available only to HGVS residents. The commercial/civic land uses will also include a public commercial component such as for food/beverage service uses like for a coffee shop or cafe. (These uses would not generate new primary trips.) The Institutional zone accommodates public facilities that may be needed to support the project, such as a wastewater treatment plant that is proposed at the northwestern portion of the site. If wastewater treatment land uses ultimately are not needed, then the land may be utilized for an alternative use, such as a water quality detention basin, trailhead, park, and/or interpretive center. The project will preserve 68% of the site in open space including 33 acres of preserved biological open space. There will be approximately 4 acres of public and private parks, 22 acres of naturalized open space, and 16 acres of landscaped areas.

The project application includes a General Plan Amendment (GPA), a Specific Plan, a Tentative Map; and a Major Use Permit for the Water Reclamation Facility. Additional discretionary permits will be needed to implement the Project, as identified in the Specific Plan.

The Project is calculated to generate 4,500 ADT, with a total of 360 trips during the AM peak hour (108 inbound/252 outbound trips) and 450 total trips during PM peak hour (315 inbound/ 135 outbound). Since the preparation of this traffic study, the Project site plan has changed to increase the number of proposed units from 450 residential dwelling units (DU) to 453 DU. The analysis provided in this report was conducted using the 450 DU amount. With an increase of three (3) units, the additional 30 ADT with 2 AM peak hour and 3 PM peak hour trips generated would

have a nominal effect on the analysis and would not change the conclusions of significance presented in this report. A trip generation comparison between the 450 DU Project analyzed in this report and the 453 DU project with the ancillary commercial/civic uses is provided in the appendix for reference.

Based on the County of San Diego significance criteria, the Project would result in seven (7) significant traffic impacts. Based on the City of Escondido significance criteria, the Project would result in three (3) significant traffic impacts.

For direct impacts, both the City and County require the implementation of physical improvements to mitigate impacts to below a level of significance.

For locations within the unincorporated County of San Diego San Dieguito Planning Area that located along segments defined as "TIF Eligible Roadways", payment toward the County of San Diego Transportation Impact Fee (TIF) Program is required per County guidelines to reduce cumulative impacts to less than significant.

As this is a GPA project, the County's TIF Program requires that it shall be updated to include potential changes to the Land Use Element and Mobility Element. The Project shall provide a fair share contribution towards the cost of updating the County's TIF program. The amount of the fair share contribution will be determined at the time the County begins the effort to update the TIF program. The cost of the TIF update will be shared by all of the approved GPAs that are being incorporated into the TIF Program. Prior to the recordation of the First Final Map for any unit, the Project shall provide its fair share contribution towards the cost of updating the County's TIF program to incorporate the approved GPAs into the TIF Program. The County's TIF Program update shall be approved by the Board of Supervisors.

Mitigation has been identified for the seven (7) impacts within County jurisdiction and the three (3) impacts within City of Escondido jurisdiction. These identified measures for impacts in the County will result in less-than-significant impacts for identified direct and cumulative Project-related effects upon implementation, and will become Conditions of the Project, as appropriate. Because the City of Escondido is a lead agency under CEQA for impacts within their jurisdiction, however; it is the City, and not the County, that has responsibility for approval/assurance of implementation of those improvements. As such, the County cannot guarantee ultimate implementation or timing of City-approved mitigation. Thus, for the purposes of this document, impacts within the City of Escondido are identified as remaining significant and unavoidable pending City action.

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HARMONY GROVE VILLAGE SOUTH

County of San Diego, California
April 6, 2017

1.0 INTRODUCTION

1.1 Purpose of the Report

The following traffic study has been prepared to determine and evaluate the traffic impacts on the local circulation system due to the Harmony Grove Village South residential development (the "Project") in the County of San Diego. This traffic study analyzes intersections, street segments and mainline freeway segments in the Project vicinity to determine potential impacts related to the traffic generated by the proposed Project.

Included in this traffic study are the following:

- Project Description
- Existing Conditions Discussion
- Analysis Approach and Methodology
- Significance Criteria
- Analysis of Existing Conditions
- Trip Generation/Distribution/Assignment
- Existing + Cumulative Projects Discussion
- Analysis of Near-Term Conditions
- Buildout Assessment
- Access and Other Issues
- Significance of Impacts and Mitigation Measures
- Reference and List of Preparers and Organizations Contacted

Figure 1–1 shows the vicinity map. ***Figure 1–2*** shows a more detailed Project area map.

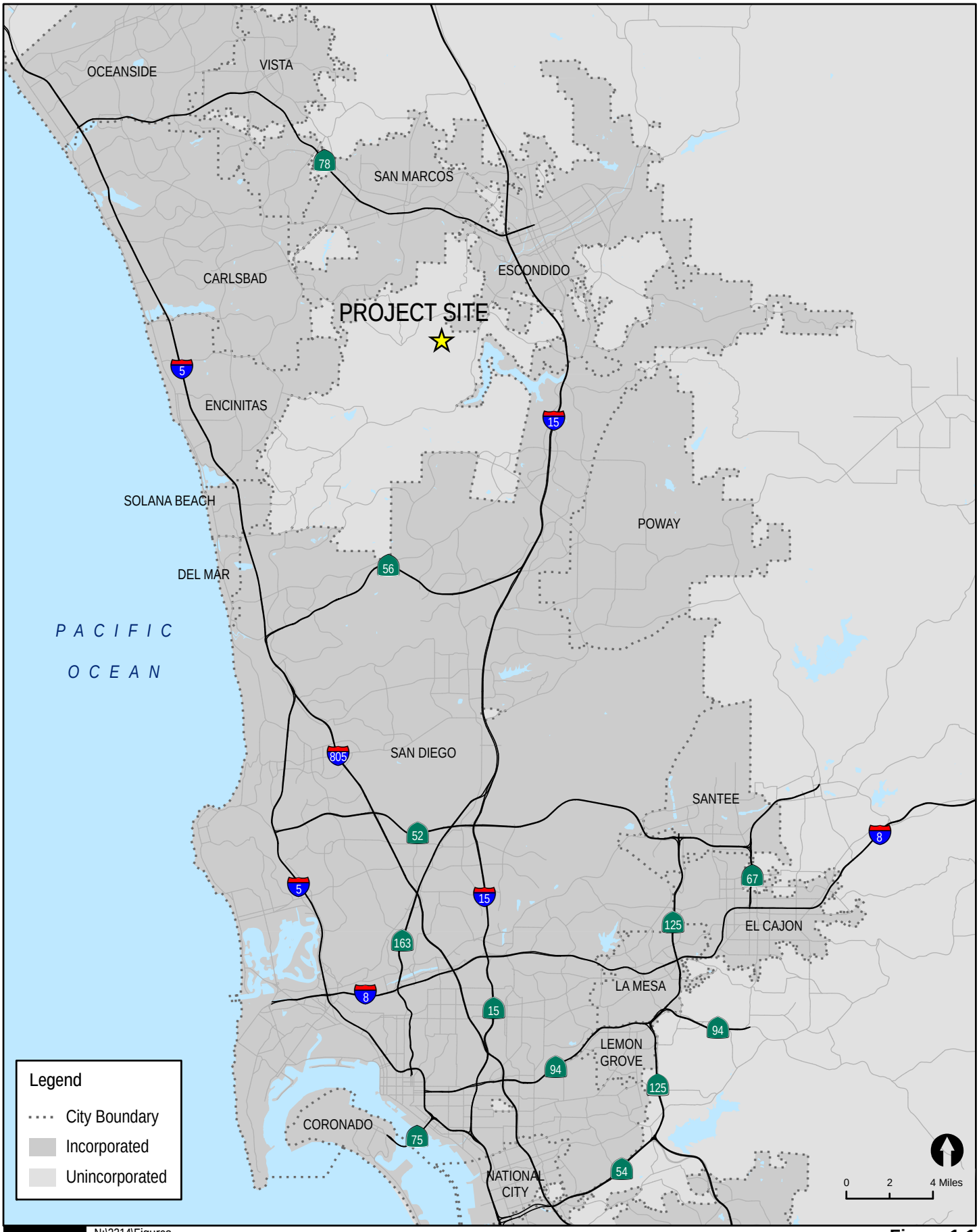

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Figure 1-1

Vicinity Map

HARMONY GROVE PARCEL

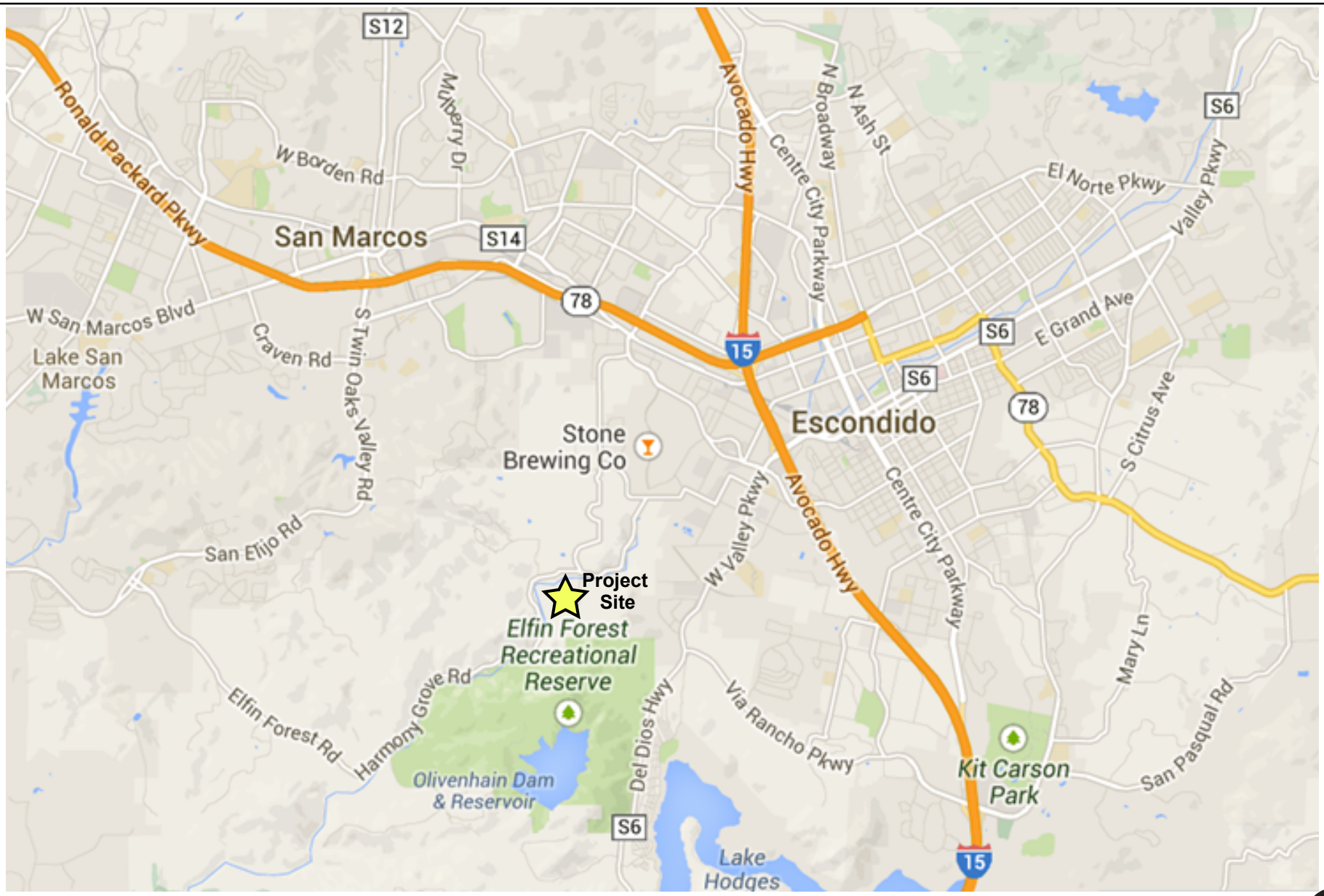

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Figure 1-2

Project Area Map

HARMONY GROVE PARCEL

2.0 PROJECT LOCATION AND DESCRIPTION

2.1 Project Location

The Project is located east of Country Club Drive and south of Harmony Grove Road in the San Dieguito Planning Community in the County of San Diego. The property is adjacent to the City of Escondido to the east/northeast. The Harmony Grove Village project is located west/northwest of the Project site.

2.2 Project Description

The current General Plan designation is SR-0.5 and the Regional Category is Semi-Rural with minimum lot sizes of 0.5 to 1 acre. The Project will redesignate a portion of the project site to Village- Regional Category (53 acres) and change the Land Use Designation to Residential (VR-10.9) and Neighborhood Commercial (NC). (The remaining 58 acres will remain designated as Semi-Rural Regional Category.)

The project consists of a mix of residential, commercial/civic and institutional uses, along with parks and open space. Specifically, the project proposes to construct 450 dwelling units that consist of single-family detached, single-family attached and multi-family residential uses and a small community center with commercial/civic uses (the Center House). The total square footage of structure associated with the Center House would be approximately 5,000 square feet, with a minimum of 1,500 square feet that will be devoted to commercial uses. The Commercial/Civic land uses may include a park, overnight accommodations of up to 4 rooms that can only be used by HGVS and HGV guests, a gym, an event lawn, and private recreational facilities like a pool or clubhouse that can be only be uses by HGVS. The Commercial/Civic land uses also include a public commercial component that may include food/beverage services (such as a café); administrative and professional services; convenience sales; or personal services (including hair or nail salon, day spa). The Institutional land uses may include public facilities needed to support the project, such as a wastewater treatment plant that is proposed at the northwestern portion of the site. If wastewater treatment land uses ultimately are not needed, then the land may be utilized for an alternative use, such as a water quality detention basin, trailhead, park, and/or interpretive center. The project will preserve 68% of the site in open space including 33 acres of preserved biological open space. There will be approximately 4 acres of public and private parks, 22 acres of naturalized open space, and 16 acres of landscaped areas.

Since the preparation of this traffic study, the Project site plan has changed to increase the number of proposed units from 450 residential DU to 453 DU. The analysis provided in this report was conducted using the 450 DU amount. With an increase of three (3) units, the additional 30 ADT with 2 AM peak hour and 3 PM peak hour trips generated would have a nominal effect on the analysis and would not change the conclusions of significance presented in this report. This is discussed in further detail in *Section 7.1* Trip Generation.

Market conditions, funding for public facilities, and similar conditions beyond the control of the developer would drive the overall implementation period. Nonetheless, an overall approach to

phasing has been designed that would ensure a logical and orderly expansion of roadways, public utilities, and infrastructure. The first phase would involve overall site grading. Infrastructure installation would follow, and the final phase(s) would consist of "vertical" development of the project. All neighborhoods are planned such that they could be built simultaneously.

Access is proposed along Country Club Drive between Harmony Grove Road and Cordrey Drive. The Project proposes to improve Country Club Drive along the Project frontage to a "Public Enhanced Residential Collector". This will include a ten-foot multi-use trail on the west side of the road, a ten-foot parkway, two eight-foot shoulders, two twelve-foot travel lanes and a 14-center turn lane/striped median. The existing bridge will also be rebuilt and improved. A five-foot parkway and a five-foot pathway are proposed on the east side of the road. Three approach lanes at the Country Club Drive/ Harmony Grove Road intersection are also proposed. The Project is designed to accommodate a system of interconnected trails and pathways that encourage pedestrian and bicycle activity and establish important links to Harmony Grove Village, the Del Dios Highlands Preserve, and the Elfin Forest Recreational Reserve. The intersection improvements and proposed changes to Country Club Drive are designed to enhance circulation for pedestrians, bicyclists, and equestrian riders. Crosswalks, clear delineations between vehicular routes and pedestrian/equestrian/bicyclist routes, and pedestrian and equestrian-level push buttons would be provided. Internal private roadways servicing the Project will include pedestrian trails and sharrows to indicate that bicyclists share the roadway with vehicles. Further details on Project access are provided in *Section 11.0*.

The project application includes a General Plan Amendment (GPA), a Specific Plan, a Tentative Map; a Re-zone; and a Major Use Permit for the Water Reclamation Facility. Additional discretionary permits will be needed to implement the Project, as identified in the Specific Plan.

Figure 2–1 shows the conceptual site plan for the Project.

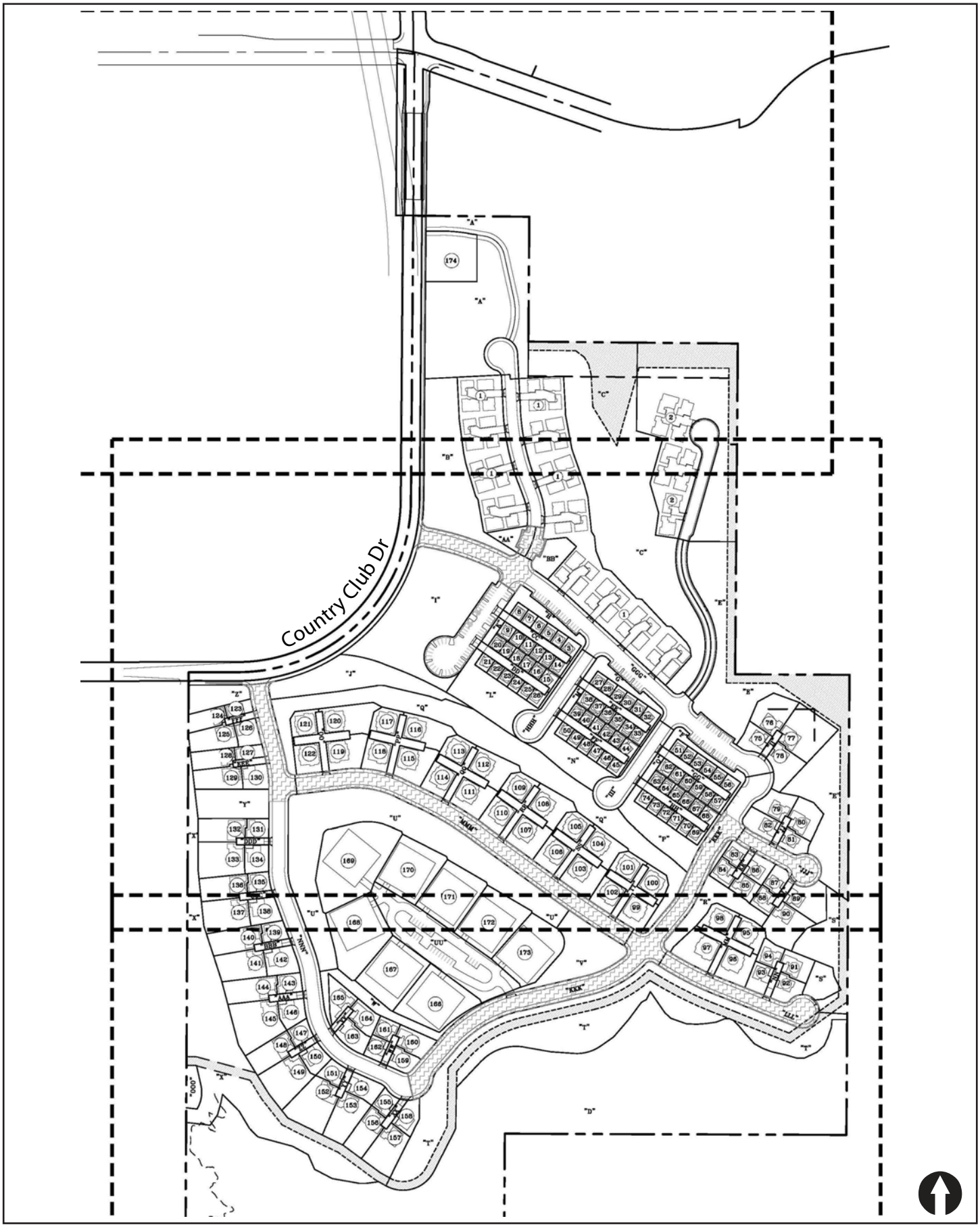

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Figure 2-1

Site Plan

HARMONY GROVE PARCEL

3.0 EXISTING CONDITIONS

3.1 Study Area

The study area was based on the criteria identified in the County of San Diego's *Report Format & Content Requirements: Transportation & Traffic*, August 24, 2011. According to the County's criteria, "the scope of the full direct and cumulative traffic assessment shall include those [*Mobility Element*] roads and intersections that will receive 25 peak hour trips (two-way peak hour total)." In addition, the County criteria states that a full traffic impact study should include all regional arterials (including all State surface routes), intersections, and mainline freeway locations where the proposed project will add 50 or more peak hour trips to the existing roadway traffic.

Based on these criteria, the following intersections and segments are included in the study area and are listed below.

Intersections

City of Escondido Jurisdiction

1. Nordahl Road / State Route 78 (SR 78) Westbound Ramps
2. Nordahl Road / State Route 78 (SR 78) Eastbound Ramps
3. Auto Park Way / Mission Road
4. Auto Park Way / Country Club Drive
5. Harmony Grove Road / Enterprise Street
6. Avenida Del Diablo / Citracado Parkway
7. Valley Parkway / I-15 Northbound Ramps
8. Valley Parkway / I-15 Southbound Ramps
9. Valley Parkway / Auto Park Way
10. Valley Parkway / 9th Avenue
11. Valley Parkway / 11th Avenue
12. Valley Parkway / Citracado Parkway
13. Auto Park Way / I-15 Southbound Ramps
14. 9th Avenue / I-15 Northbound Ramps

County of San Diego Jurisdiction

15. Country Club Drive / Kauana Loa Drive
16. Country Club Drive / Harmony Grove Village Parkway
17. Country Club Drive / Harmony Grove Road
18. Harmony Grove Road / Kauana Loa Drive
19. Harmony Grove Road / Harmony Grove Village Parkway

Street Segments

City of Escondido Jurisdiction

Auto Park Way

1. Mission Road to Country Club Drive

Citracado Parkway

2. Avenida Del Diablo to Valley Parkway

Valley Parkway

3. 11th Avenue to Citracado Parkway
4. Auto Park Way to the I-15 Southbound Ramps

9th Avenue

5. W. Valley Parkway to Auto Park Way

Country Club Drive

6. Auto Park Way to Hill Valley Drive

County of San Diego Jurisdiction

Country Club Drive

7. Hill Valley Drive to Kauana Loa Drive
8. Kauana Loa Drive to Harmony Grove Village Parkway
9. Harmony Grove Village Parkway to Harmony Grove Road

Harmony Grove Road

10. Wilgen Drive to Country Club Drive
11. Country Club Drive to Harmony Grove Village Parkway
12. Harmony Grove Village Parkway to Kauana Loa Drive
13. Kauana Loa Drive to Enterprise Street *(County and City)*

Harmony Grove Village Parkway

14. Harmony Grove Road to Citracado Parkway

Freeway Mainline Segments

State Route 78

1. West of Nordahl Road
2. East of Nordahl Road

3.2 Existing Transportation Conditions

The following is a description of the nearby roadway network including projections of capacity based on average daily traffic (ADT):

Auto Park Way is classified as a Six-Lane Super Major Road in the City of Escondido *General Plan Mobility Element* with a buildout LOS E capacity of 50,000 ADT. From Mission Road to Meyer Avenue, Auto Park Way is currently constructed as a six-lane divided roadway. From Meyer Avenue to Country Club Drive, it is currently built as a four-lane divided roadway. Therefore, the average carrying capacity between a six-lane and four-lane roadway of 43,500 ADT was used in the existing and near-term analysis. Bicycle lanes and sidewalks are provided on both sides of the roadway. Curbside parking is not allowed and the posted speed limit is 40 mph.

Citracado Parkway is classified as a Four-Lane Major Road in the City of Escondido *General Plan Mobility Element* with a buildout LOS E capacity of 37,000 ADT. From Avenida Del Diablo to W. Valley Parkway, Citracado Parkway is currently built as a two-lane roadway including a wide, landscaped median with an existing LOS E capacity of 10,000 ADT. The posted speed limit is 40 mph. There are no bike lanes or bus stops on this portion of the roadway. Additional information on improvements to Citracado Parkway recently completed by the Harmony Grove Village project is provided in *Section 3.2.1* below.

W. Valley Parkway is classified as a Four-Lane Major Road from Citracado Parkway to Auto Park Way in the City of Escondido *General Plan Mobility Element* with an LOS E capacity of 37,000 ADT and as a Six-Lane Major Road from Auto Park Way to the I-15 Ramps with an LOS E capacity of 50,000. Between 11th Avenue and Auto Park Way, W. Valley Parkway is currently built as a four-lane divided roadway with a raised landscaped median, curb, gutter and sidewalks with an existing LOS E capacity of 37,000 ADT. Bike lanes are provided intermittently along both sides of the roadway and parking is not permitted. The posted speed limit is between 45-50 mph. From Auto Park Way to the I-15 Southbound Ramps, W. Valley Parkway is built as an eight-lane divided roadway with an existing LOS E capacity of 70,000 ADT, exceeding is *Mobility Element* classification. The existing eight-lane capacity was used in all analysis scenarios.

9th Avenue is classified as a Four-Lane Collector in the City of Escondido *General Plan Circulation Element* with an LOS E capacity of 34,200 ADT. From Valley Parkway to Auto Park Way, 9th Avenue is currently built as a 60-foot wide two-lane roadway with a continuous two-way left-turn lane. Therefore, a carrying capacity of 15,000 ADT was used in the existing and near-term analysis. The posted speed limit is 35 mph. Curbside parking is permitted and there are no bike lanes or bus stops.

Country Club Drive is classified as a Two-Lane Local Collector in the City of Escondido *General Plan Mobility Element* from Auto Park Way to Hill Valley Drive with an LOS E capacity of 10,000 ADT and is currently built as a two lane undivided roadway. Starting at the industrial development approximately 0.25 miles west of Auto Park Way, frontage improvements have been completed to widen the southbound lane and to provide a sidewalk on the west side of the roadway

allowing for curbside parking. No curbs, gutters or sidewalks are provided and parking is not permitted on the east side of the roadway. The posted speed limit is 45 mph. A carrying capacity of 10,000 ADT was used in all analysis scenarios.

Country Club Drive is an unclassified roadway in the County of San Diego *General Plan Mobility Element* from Hill Valley Drive to Hillside Road. It is currently built as a two-lane undivided roadway from Hill Valley Drive to Kauana Loa Drive with minimal shoulders and a 45 mph speed limit. Based on these roadway characteristics, it currently functions as a 2.2F Light Collector with an LOS E capacity of 9,700 ADT.

See *Section 3.2.1* below for further descriptions of Country Club Drive from Kauana Loa Drive to Harmony Grove Road.

Harmony Grove Road is classified as a 2.2E Light Collector from Wilgen Drive to Country Club Drive with an LOS E capacity of 16,200 ADT and as a 2.2B Light Collector with a Continuous Turn Lane from County Club Drive to Kauana Loa Drive with an LOS E capacity of 19,000 ADT in the County of San Diego *General Plan Mobility Element*. For more details on the existing conditions of Harmony Grove Road within the County's jurisdiction, see *Section 3.2.1* provided below.

From Kauana Loa Drive to Enterprise Street, Harmony Grove Road is an unclassified roadway in both the County's *Mobility Element* and the City of Escondido's *General Plan Mobility Element*. It is currently built as a two-lane undivided roadway with capacity improvements along the industrial frontage approaching Enterprise Street where curb, gutter and sidewalks are provided. The posted speed limit is 40 mph. The roadway crosses into both the County and City's jurisdiction. However, the majority of the roadway abuts the County line. Given these roadway characteristics, this portion of Harmony Grove Road currently functions as a 2.2F Light Collector with an LOS E capacity of 9,700 ADT. This capacity was used in all analysis scenarios.

Harmony Grove Village Parkway See *Section 3.2.1* below.

State Route 78 (SR 78) is generally a six-lane east/west freeway. Additional auxiliary lanes are provided at the Nordahl Road interchange and at the Interstate 15 junction. Ramp meters are provided at the Nordahl Road on-ramps. According to the *Caltrans Guidelines for the Preparation of Traffic Impact Studies, December 2002*, a capacity of 2,000 vehicles per hour (vph) was used for mainline operations with 1,200 vph per lane for auxiliary lanes.

3.2.1 *Harmony Grove Village Network Conditions*

The Harmony Grove Village project located north of Harmony Grove Road and bound by Country Club Drive and Wilgen Road is currently under construction. The development footprint has been largely graded, homes are being constructed throughout the site, a Water Reclamation Facility that will serve HGV has been completed, roadways are being installed and homes have been available for sale since May 2015. The project is developing as a rural residential community with a small community/commercial core. The project includes the development of 710 residential single-family units, 32 live/work lofts with 16,500 square-feet of retail, a 25,000-square foot village core, an

equestrian park, public and private parks, an institutional site (assumed to be a tack and feed store), and a fire station.

As part of the Harmony Grove Village project, and as of 2016, a new road named Harmony Grove Village Parkway has been constructed to connect Country Club Drive to the southern extension of Citracado Parkway. From County Club Drive to Harmony Grove Road, Harmony Grove Village Parkway is being constructed to provide a graded width of 74 feet with a paved width of 54 feet including curb, gutter and sidewalks for an LOS E capacity of 19,000 ADT. East of Harmony Grove Road to Citracado Parkway, it has been constructed to a graded width of 60 feet with a paved width of 40 feet including curb, gutter and sidewalks for an LOS E capacity of 16,200 ADT. Harmony Grove Village Parkway is identified in the County of San Diego *General Plan Mobility Element* by its previous name of "Lariat Drive" and is ultimately classified as a 2.1C Community Collector with Intermittent Turn Lanes for an LOS E capacity of 19,000 ADT.

Citracado Parkway has been extended northward from its prior terminus at Avenida Del Diablo for a short distance to intersect the new Harmony Grove Village Parkway roadway. Left-turning movements at the Avenida Del Diablo intersection with Citracado Parkway are being restricted in the southbound, eastbound and westbound directions. In addition, the east/west movements on Avenida Del Diablo are right-turn only.

Within the study area, Country Club Drive from Kauana Loa Drive to the northerly boundary of Harmony Grove Village has been improved to modified Rural Light Collector standards per the previously adopted General Plan (corresponding with a 2.2F Light Collector on the currently adopted General Plan) with an ADT capacity of 9,700 ADT. South of the Harmony Grove Village Project boundary to Harmony Grove Village Parkway, Country Club Drive has been improved to Rural Collector standards per the previously adopted General Plan (corresponding to 2.2E Light Collector on the currently adopted General Plan) with an ADT capacity of 16,200. For the purposes of being conservative, the 9,700 ADT capacity was used in the buildout assessment.

Harmony Grove Road has been improved from Wilgen Road to Country Club Drive to a graded width of 74 feet and a paved width of 54 feet with curb and gutters for an LOS E capacity of 19,000 ADT. Although the County of San Diego *General Plan Mobility Element*, classifies this segment as a 2.2E Light Collector with an LOS E capacity of 16,200 ADT, because the roadway has been improved to 2.2C Light Collector standards (19,000 ADT), this capacity was used in all near-term and buildout analyses.

From County Club Drive to Harmony Grove Village Parkway, Harmony Grove Road is being improved to provide a graded width of 36 feet with a paved with of 28 feet. Built to these standards, the roadway will function as a modified Rural Light Collector with an LOS E capacity of 16,200 ADT.

In addition, traffic signals are being installed at the Harmony Grove Road/ Harmony Grove Village Parkway intersection and the Harmony Grove Road/ Country Club Drive intersection.

As noted, these roadway improvements are completed, with one improvement currently under construction. As a result, all of these improvements are expected to be completed prior to opening day of the proposed Project. Thus, they were included in the existing street network assumptions. ***Appendix A*** contains a copy of the Harmony Grove Village Conditions of Approval (COA), which defined several improvements discussed above.

Figure 3–1 depicts the Existing traffic conditions and the study area intersections and segments graphically.

3.3 Existing Traffic Volumes

Weekday AM/PM peak hour intersection turning movement and 24-hour bi-directional daily traffic counts were conducted in February and June of 2014 when schools were in session. The peak hour counts were conducted between the hours of 7:00-9:00 AM and 4:00-6:00 PM.

Freeway volumes were taken from the most recent Caltrans Performance Measurement System (PeMS) data. The PeMS software distributes real-time peak hour and average daily traffic volumes and provides a graphical representation of volumes at each PeMS station location. Peak hour freeway volume data was obtained, where available. Average daily freeway volumes were taken from the most recent Caltrans ADT data.

3.3.1 *Harmony Grove Village Traffic Volumes*

As stated in *Section 3.2.1*, the Harmony Grove Village project is currently under construction. Since development of this project is currently underway, homes have already been sold and some units are now occupied, it was determined that the total traffic generated by this project would be on the street system prior to the opening day of the proposed Project, and therefore is included under existing baseline conditions. (Pursuant to its entitlement documents, completion of this project was originally anticipated for 2008.)

The trip assignment taken from the Harmony Grove Village Final Environmental Impact Report (EIR) was added to the existing 2014 traffic data to arrive at the final existing traffic volume conditions.

Table 3–1 is a summary of the most recent available average daily traffic volumes (ADTs). ***Appendix B*** contains the manual count sheets and the freeway mainline traffic data as well as a copy of the project assignment for Harmony Grove Village.

Figure 3–2 depicts the *Existing* peak hour intersection turning movement and 24-hour segment volumes at the study area intersections and segments.

TABLE 3–1
EXISTING TRAFFIC VOLUMES

Street Segment	ADT [a]	Jurisdiction
Auto Park Way		
1. Mission Road to Country Club Drive	26,110	Escondido
Citracado Parkway		
2. Avenida Del Diablo to W. Valley Parkway	6,170	Escondido
Valley Parkway		
3. 11th Avenue to Citracado Parkway	24,110	Escondido
4. Auto Park Way to I-15 SB Ramps	37,280	Escondido
9th Avenue [b]		
5. W. Valley Parkway to Auto Park Way	11,630	Escondido
Country Club Drive		
6. Auto Park Way to Hill Valley Drive	6,490	Escondido
Country Club Drive [c]		
7. Hill Valley Drive to Kauana Loa Drive	5,980	County
8. Kauana Loa Drive to Harmony Grove Village Parkway	3,260	County
9. Harmony Grove Village Parkway to Harmony Grove Road	2,430	County
Harmony Grove Road [c]		
10. Wilgen Drive to Country Club Drive	8,370	County
11. Country Club Drive to Harmony Grove Village Parkway	7,510	County
12. Harmony Grove Village Parkway to Kauana Loa Drive	5,890	County
13. Kauana Loa Drive to Enterprise Street	7,310	County/ Escondido
Harmony Grove Village Parkway [c]		
14. Harmony Grove Road to Citracado Parkway	8,220	County
Freeway Mainline Segment	**ADT [a]**	**Jurisdiction**
1. State Route 78 West of Nordahl Road	159,000	Caltrans
2. State Route 78 East of Nordahl Road	164,000	Caltrans

Footnotes:

a. Average Daily Traffic Volumes collected February and June of 2014 when schools were in session. Caltrans volumes taken from most recent available data.

b. 9th Avenue provides a paved width of 60 feet with a 12-foot center turn lane and 24-foot travel lanes in each direction (8-foot parking lane plus 16' travel lane). Therefore, a capacity of 15,000 ADT was used in the analysis.

c. Country Club Drive from Harmony Grove Village Parkway to Harmony Grove Road and Harmony Grove Village Parkway from Harmony Grove Road to Citracado Parkway were under construction at the time of data collection. With the construction of Harmony Grove Village and the new roadways in the area, the existing counts were adjusted to account for the rerouting of existing traffic and to incorporate the projected trips generated by the Harmony Grove Village project. Therefore, portions of Country Club Drive, Harmony Grove Road, and Harmony Grove Village Parkway were adjusted to include the rerouting of existing traffic with the addition of Harmony Grove Village project volumes.

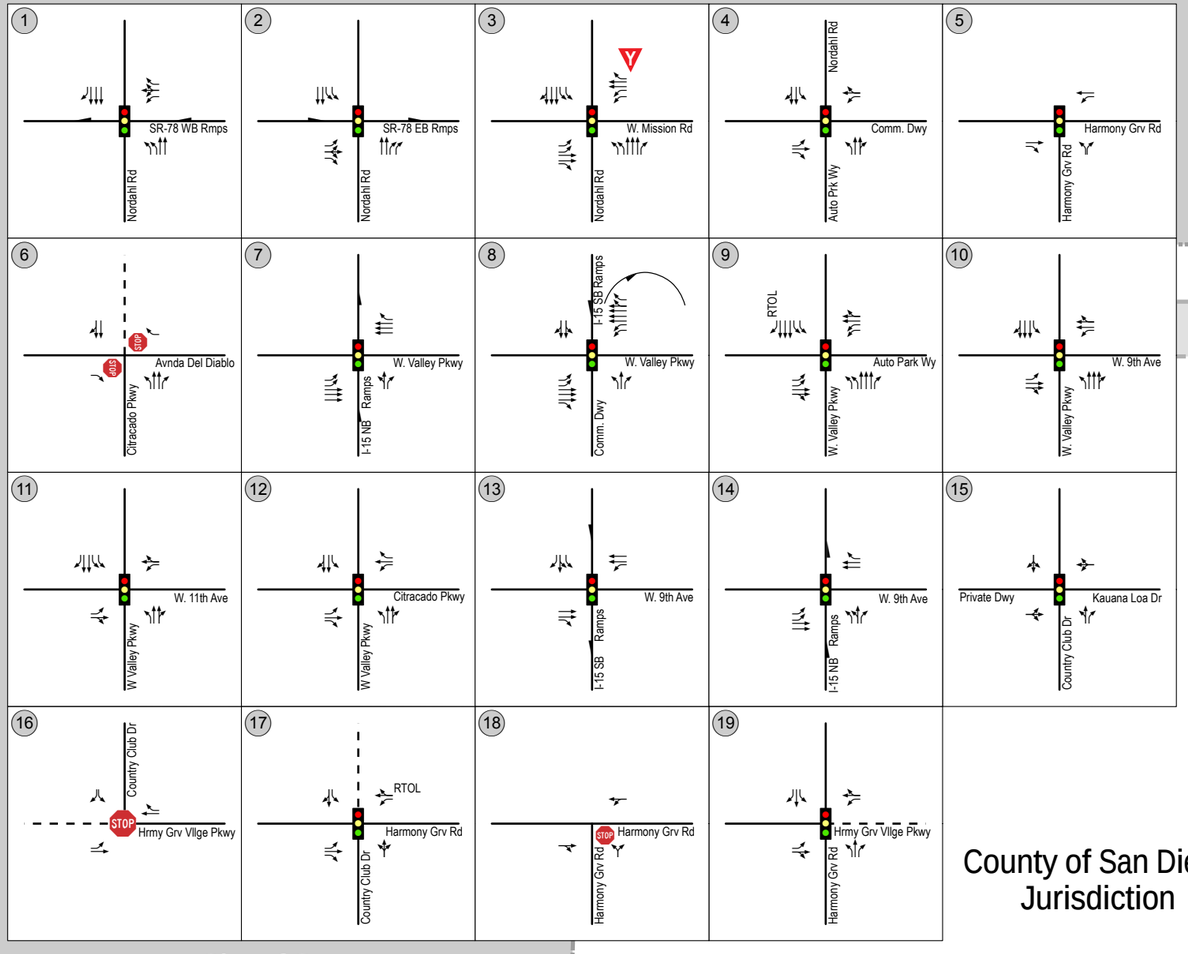

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Figure 3-1

Existing Conditions Diagram

HARMONY GROVE PARCEL

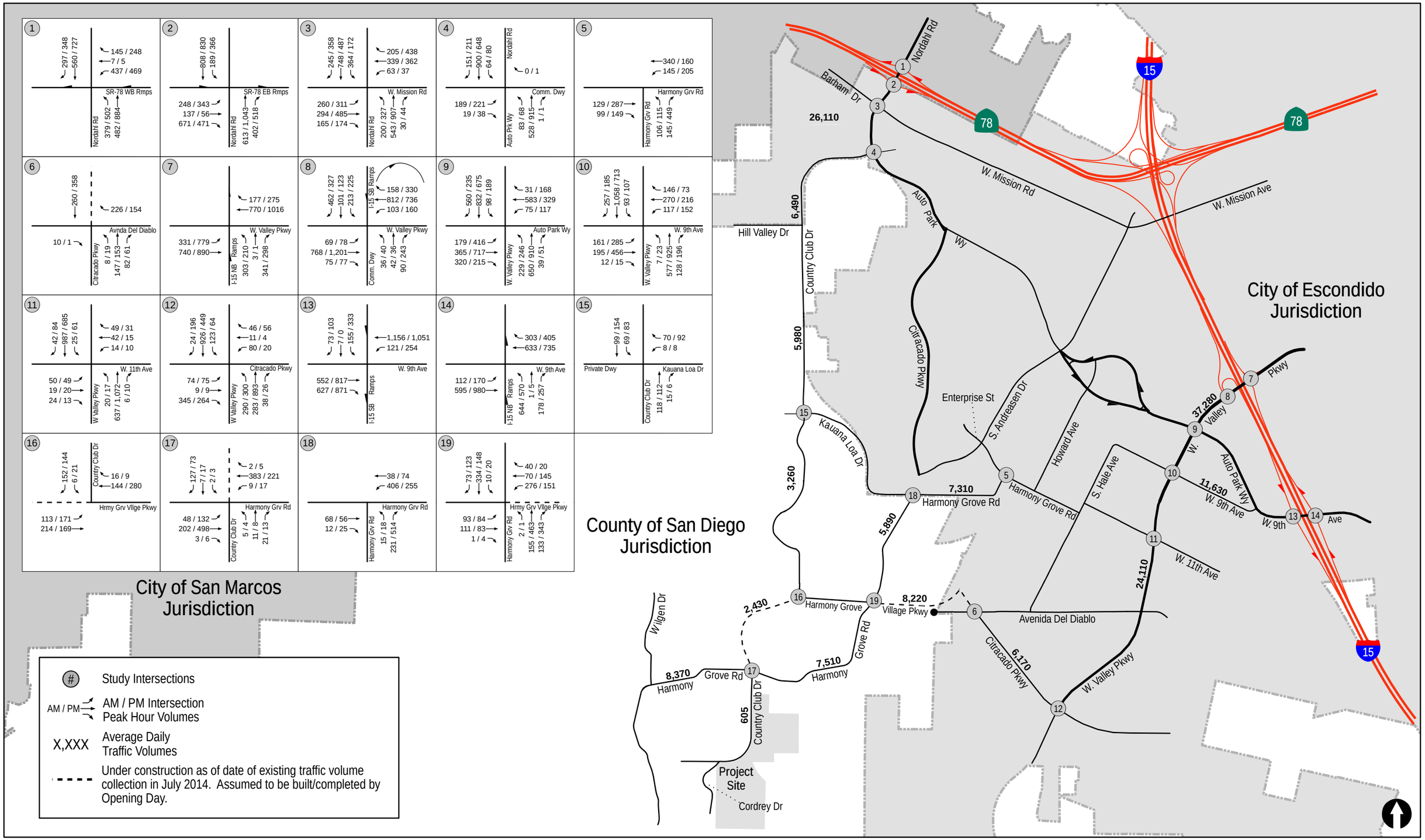

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Figure 3-2

Existing Traffic Volumes

HARMONY GROVE PARCEL

4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 Analysis Approach

The "With Project" conditions analyze the increase in traffic due to the development of these 453 single-family homes on 111 acres. As noted earlier in this report, since the preparation of this traffic study, the Project site plan has changed to increase the number of proposed units from 450 residential DU to 453 DU. The analysis provided in this report was conducted using the 450 DU amount. With an increase of three (3) units, the additional 30 ADT with 2 AM peak hour and 3 PM peak hour trips generated would have a nominal effect on the analysis and would not change the conclusions of significance presented in this report.

Table 4–1 lists the scenarios analyzed in this report.

TABLE 4–1
ANALYSIS SCENARIOS

Scenario
Existing & Near-Term Conditions
▪ Existing ▪ Existing + Project ▪ Existing + Cumulative Projects ▪ Existing + Project + Cumulative Projects
Buildout Condition
▪ Buildout Without Project (*General Plan* Land Use) ▪ Buildout With Project (Proposed *General Plan* Amendment Land Use)

Existing conditions represent the existing on-the-ground network and traffic volume conditions. As previously mentioned in *Section 3.2.1* and *3.3.1*, the Harmony Grove Village project is currently under construction and homes have been sold and occupied. As part of the project, Country Club Drive is being improved from Kauana Loa Drive south along the Harmony Grove Village project frontage. Also, the construction of the new Harmony Grove Village Parkway roadway is currently in progress which will result in a rerouting of existing traffic from Kauana Loa Drive to this new roadway. These improvements are expected to be completed prior to opening day of the proposed Project. It was therefore determined that traffic volumes projected to be generated by the Harmony Grove Village project should be included under existing traffic conditions.

Existing + Project conditions represent the operations of the existing street network described above with the addition of the total traffic generated by 450 dwelling units. No proposed improvements to the Project frontage roads and access intersection of Country Club Drive/ Harmony Grove Road

were included in the analysis for purposes of being conservative. *Section 11.0* discusses the access improvements in further detail.

Existing + Project + Cumulative Projects conditions represent the time period in the near future when traffic generated by the total Project would be on the street system and when it would be expected that other nearby development or infrastructure projects would contribute to cumulative growth in the area increasing the overall study area traffic volumes. *Section 8.0* discusses the cumulative conditions in greater detail.

Buildout Without Project (General Plan Land Use) conditions represent the forecasted traffic volume and network conditions at buildout of the County and City *General Plan* land use designations. According to the *General Plan*, 222 DU would be accommodated within the Project site based on the current zoning (SR-0.5 with minimum lot sizes of 0.5 to 1 acre). The traffic volumes generated by 222 DU were included in the County's buildout traffic model. *Section 10.0* provides more information on the Buildout assumptions.

Buildout With Project (Proposed Land Use) conditions represent the forecasted traffic volume and network conditions at buildout of the County and City *General Plan* land use designations with the exception of the Project site requiring a *General Plan* Amendment to increase the allowable land use intensity. The net increase in traffic volumes with this change (450 DU less 222 DU) was added to the baseline Buildout conditions. *Section 10.0* provides more information on the Buildout assumptions.

4.2 Methodology

LOS is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized intersections, unsignalized intersections, and roadway segments.

4.3 Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 16 of the *2000 Highway Capacity Manual (HCM),* with the assistance of the *Synchro* (version 7.0) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. A more detailed explanation of the methodology is attached in ***Appendix C.***

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapter 17 of the *HCM,* with the assistance of the *Synchro* (version 7.0) computer software. A more detailed explanation of the methodology is attached in *Appendix C.*

4.4 Street Segments

Street segment analysis is based upon the comparison of ADTs to the County of San Diego and City of Escondido *Roadway Classification, Level of Service, and ADT Tables,* depending on which jurisdiction the street segment is located within. These tables provide segment capacities for different street classifications, based on traffic volumes and roadway characteristics. Copies of the County of San Diego and City of Escondido capacity tables are attached in ***Appendix D.***

4.5 Freeway Segments

Freeway segments were analyzed during the AM and PM peak hours based on the methodologies as outlined in the SANTEC/ITE Guidelines developed by Caltrans. The freeway segments LOS is based on a Volume to Capacity (V/C) method. Page 5 of Caltrans' *Guide for the Preparation of Traffic Impact Studies,* December 2002 documents a maximum service flow rate of 2,000 passenger cars per hour per lane. The freeway segments were analyzed using the existing mainline lane conditions at the location where PeMS data was collected. The freeway LOS operations are summarized below in ***Table 4–2***.

TABLE 4–2
CALTRANS DISTRICT 11
FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

LOS	V/C	Congestion/Delay	Traffic Description
USED FOR FREEWAYS, EXPRESSWAYS AND CONVENTIONAL HIGHWAYS			
A	<0.41	None	Free flow
B	0.42-0.62	None	Free to stable flow, light to moderate volumes.
C	0.63-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
USED FOR FREEWAYS AND EXPRESSWAYS			
F(0)	1.01-1.25	Considerable: 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
F(l)	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues.
F(2)	1.36-1.45	Very Severe: 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
F(3)	>1.46	Extremely Severe: 3+ hours of delay	Gridlock

5.0 SIGNIFICANCE CRITERIA

The following criteria were used to evaluate potential significant impacts, based on the County's document, *Guidelines for Determining Significance*, August 24, 2011, for study area locations within the County of San Diego. For study area intersections and segments located in the City of Escondido, the City of Escondido's *Traffic Impact Analysis Guidelines* (2014) were used.

5.1 County of San Diego

5.1.1 *Intersections*

This section provides guidance for evaluating adverse environmental effects a project may have on signalized and unsignalized intersections. ***Table 5–1*** summarizes significant project impacts for signalized and unsignalized intersections.

TABLE 5–1
MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON INTERSECTIONS
ALLOWABLE INCREASES ON CONGESTED INTERSECTIONS

Level of service	Signalized	Unsignalized
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
LOS F	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement

General Notes:

1. A critical movement is an intersection movement (right-turn, left-turn, or through-movement) that experiences excessive queues, which typically operate at LOS F.
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay ***and*** the number of trips on a critical movement, exceedance of either criteria result in a significant impact.

Signalized Intersections—Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or LOS traffic impact on a signalized intersection:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in *Table 5–1*.
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance, or other factors, the project would significantly impact the operations of the intersection.

***Unsignalized Intersections*—**the operating parameters and conditions for unsignalized intersections differ dramatically from those of signalized intersections. Very small volume increases on one leg or turn and/or through movement of an unsignalized intersection can substantially affect the calculated delay for the entire intersection. Significance criteria for unsignalized intersections are based upon a minimum number of trips added to a critical movement at an unsignalized intersection.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic impact on an unsignalized intersection as listed in *Table 5–1* and described as text below:

- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or
- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or
- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or
- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance, or other factors, the project would significantly impact the operations of the intersection.

Using County of San Diego guidelines, impacts calculated in the Existing + Project scenario are considered "direct" and impacts calculated in the Existing + Project + Cumulative Projects time frame are considered "cumulative".

5.1.2 *Street Segments*

Pursuant to the County's *General Plan Mobility Element*, new development must provide improvements or other measures to mitigate traffic impacts to avoid:

a. Reduction in LOS below "C" for on-site Mobility Element roads;

b. Reduction in LOS below "D" for off-site and on-site abutting *Mobility Element* roads; and

c. "Significantly impacting congestion" on roads that operate at LOS "E" or "F". If impacts cannot be mitigated, the project cannot be approved unless a statement of overriding findings is made pursuant to the State CEQA Guidelines. The *Mobility Element*, however, does not include specific guidelines for determining the amount of additional traffic that would "significantly impact congestion" on such roads.

The County has created the following guidelines to evaluate likely traffic impacts of a proposed project for road segments and intersections serving that project site, for purposes of determining whether the development would "significantly impact congestion" on the referenced LOS E and F roads. The guidelines are summarized in ***Table 5–2***. The thresholds in *Table 5–2* are based upon average operating conditions on County roadways. It should be noted that these thresholds only establish general guidelines, and that the specific project location must be taken into account in conducting an analysis of traffic impact from new development.

TABLE 5–2
MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON
MOBILITY ELEMENT ROAD SEGMENTS
ALLOWABLE INCREASES ON CONGESTED ROAD SEGMENTS

Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

General Notes:

1. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.
2. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

Mobility Element Roads— ME Policy 2.1 addresses *Mobility Element* roads. It states that development projects are required "to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified in the accompanying text box (Criteria for Accepting a Road Classification with Level of Service E/F)."

The following significance guidelines define a method for evaluating whether or not increased traffic volumes generated or redistributed from a proposed project will "significantly impact congestion" on County roads, operating at LOS E or F, either currently or as a result of the project.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or LOS impact on a road segment, unless specific facts show that there are other circumstances that mitigate or avoid such impacts:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Mobility Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Mobility Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in *Table 5–2*, or
- The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.

5.2 City of Escondido

The City of Escondido utilizes the San Diego Traffic Engineer's Council and the San Diego Chapter of the Institute of Transportation Engineers (SANTEC/ITE) guidelines in determining levels of significance. In accordance with "SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region", the following thresholds shall be used to identify significant traffic impacts under any scenario. Based on SANTEC/ITE guidelines, if now or in the future, the project's traffic impact causes the values in ***Table 5–3*** below to be exceeded in a roadway segment or an intersection that is operating at LOS D or worse, it is determined to be a significant impact and the project shall identify mitigation measures.

TABLE 5–3
CITY OF ESCONDIDO TRAFFIC IMPACT SIGNIFICANCE THRESHOLDS

Level of Service With Project	**Allowable Change due to Project Impact**		
	Roadway Segments		**Intersections**
	V/C	**Speed Reduction (mph)**	**Delay (sec.)**
D, E, or F	0.02	1.0	2.0

General Notes:

1. No Significant Impact occurs at areas in GP Downtown Specific Plan that operate at LOS "D" or better.
2. Mitigation measures should also be considered for any segment or intersection operating on LOS "F" subject to less than significant impact.

5.3 Caltrans

5.3.1 *Freeway Segments*

Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002, outlines recommended procedures for traffic study contents but does not identify specific traffic impact thresholds. Caltrans staff has indicated that there is a desire to maintain freeway operations between LOS C and D levels. Specific traffic impact thresholds are typically identified by local Caltrans staff. For the San Diego region, the SANTEC/ITE *Guidelines for Traffic Impact Studies in the San Diego Region*, March 2000, document was used for the determination of the significance of impacts for the freeway mainlines. The defined thresholds are shown in ***Table 5–4*** below for freeway segments.

TABLE 5–1
SANTEC/ITE TRAFFIC IMPACT SIGNIFICANT THRESHOLDS

Level of Service with Project [a]	**Allowable Increase Due to Project Impacts [b]**	
	Freeways	
	V/C	**Speed (mph)**
E & F	0.01	1

Source: SANTEC/ITE *Guidelines for Traffic Impact Studies in the San Diego Region*, March 2, 2000.

Footnotes:

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions).

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant.

General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour

6.0 ANALYSIS OF EXISTING CONDITIONS

The criteria used for determining unacceptable operations are subject to each jurisdiction's standards, as discussed in *Section 5.0* of this report. County of San Diego intersection and street segment operations are considered unacceptable at LOS E or F. The City of Escondido considers LOS D the threshold for unacceptable operations. Caltrans' criteria indicates freeway segments operating at LOS E or worse are unacceptable operations. The following section summarizes the existing analysis of study area locations.

6.1 Peak Hour Intersection Levels of Service

Table 6–1 summarizes the existing intersections LOS. As seen in *Table 6–1*, all intersections are calculated to currently operate at acceptable levels of service.

Appendix E contains the existing intersection analysis worksheets.

6.2 Daily Street Segment Operations

Table 6–2 summarizes the existing roadway segment operations. As seen in *Table 6–2*, all study area segments are calculated to currently operate at acceptable levels of service, except the following:

City of Escondido

- Segment #5. 9th Avenue between Valley Parkway and Auto Park Way – LOS D

6.3 Freeway Mainline Operations

Table 6–3 summarizes the existing freeway mainline operations on SR 78. As seen in *Table 6–3*, the eastbound and westbound segments of SR 78 east and west of Nordahl Road currently operate at acceptable levels during both the AM and PM peak hours except for the following:

- Mainline #1. SR 78 Westbound, west of Nordahl Road: LOS E/E during the AM/PM peak hours

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Jur.	Control Type	Peak Hour	Existing	
				Delay [a]	LOS [b]
1. Nordahl Rd / SR 78 WB Ramps	City	Signal	AM	22.4	C
			PM	25.2	C
2. Nordahl Rd / SR 78 EB Ramps	City	Signal	AM	21.6	C
			PM	20.4	C
3. Auto Park Way / Mission Rd	City	Signal	AM	32.1	C
			PM	33.7	C
4. Auto Park Way / Country Club Dr	City	Signal	AM	16.8	B
			PM	17.5	B
5. Harmony Grove Road / Enterprise St	City	Signal	AM	13.1	B
			PM	14.8	B
6. Avenida Del Diablo / Citracado Pkwy	City	Signal	AM	10.0	B
			PM	9.5	A
7. Valley Pkwy / I-15 NB Ramps	City	Signal	AM	26.5	C
			PM	35.1	D
8. Valley Pkwy / I-15 SB Ramps	City	Signal	AM	31.1	C
			PM	32.7	C
9. Valley Pkwy / Auto Park Way	City	Signal	AM	30.6	C
			PM	32.2	C
10. Valley Pkwy / 9th Ave	City	Signal	AM	26.6	C
			PM	36.2	C
11. Valley Pkwy / 11th Ave	City	Signal	AM	16.1	B
			PM	14.2	B
12. Valley Pkwy / Citracado Pkwy	City	Signal	AM	30.1	C
			PM	24.7	C
13. Auto Park Way / I-15 SB Ramps	City	Signal	AM	17.7	B
			PM	24.1	C
14. Auto Park Way / I-15 NB Ramps	City	Signal	AM	21.9	C
			PM	21.0	C

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TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Jur.	Control Type	Peak Hour	Existing	
				Delay [a]	LOS [b]
(Continued from Previous Page)					
15. Country Club Dr / Kauana Loa Dr	County	AWSC [c]	AM	8.2	A
			PM	8.8	A
16. Country Club Dr / Harmony Grove Village Pkwy	County	AWSC	AM	8.9	A
			PM	10.3	B
17. Country Club Dr / Harmony Grove Rd [e]	County	Signal	AM	30.5	C
			PM	36.6	D
18. Harmony Grove Rd / Kauana Loa Dr	County	MSSC [d]	AM	12.0	B
			PM	15.2	C
19. Harmony Grove Rd / Harmony Grove Village Pkwy [e]	County	Signal	AM	24.2	C
			PM	20.9	C

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. AWSC – All-Way Stop Controlled intersection. Average delay reported.
d. MSSC – Minor Street Stop Controlled intersection. Minor street left-turn delay is reported.
e. Traffic signal installed per the Harmony Grove Village Conditions of Approval.

General Notes:

1. Jur. = Jurisdiction, City = City of Escondido

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

City of Escondido Street Segments	Currently Built As	Existing Capacity (LOS E) [a]	ADT [b]	LOS [c]	V/C [d]
Auto Park Way					
1. Mission Rd to Country Club Dr [e]	4-Lane Divided	43,500	26,110	B	0.600
Citracado Parkway					
2. Avenida Del Diablo to Valley Parkway	2-Lane Undivided	15,000	6,170	B	0.411
Valley Parkway					
3. 11th Ave to Citracado Parkway	4-Lane Divided	37,000	24,110	C	0.652
4. Auto Park Way to I-15 SB Ramps	8-Lane Divided	70,000	37,280	B	0.533
9th Avenue					
5. Valley Pkwy to Auto Park Way	2-Lane Undivided	15,000	11,630	D	0.775
Country Club Drive					
6. Auto Park Way to Hill Valley Dr	2-Lane Undivided	10,000	6,490	C	0.649
County of San Diego Street Segments	**Currently Built As**	**Existing Capacity (LOS E) [a]**	**ADT [b]**	**LOS [c]**	
Country Club Drive					
7. Hill Valley Dr to Kauana Loa Dr [f]	2-Lane Undivided	9,700	5,980	B	
8. Kauana Loa Dr to Harmony Gr. Vill. Pkwy [g]	2-Lane Undivided	9,700	3,260	A	
9. Harmony Gr. Vill. Pkwy to Harmony Gr. Rd [h]	2-Lane Undivided	19,000	2,430	A	
Harmony Grove Road					
10. Wilgen Dr to Country Club Dr [i]	2-Lane Undivided	19,000	8,370	C	
11. Country Club Dr to Harmony Gr. Vill. Pkwy [j]	2-Lane Undivided	16,200	7,510	D	
12. Harmony Gr. Vill. Pkwy to Kauana Loa Dr [j]	2-Lane Undivided	16,200	5,890	C	
13. Kauana Loa Dr to Enterprise St [k]	2-Lane Undivided	9,700	7,310	C	
Harmony Grove Village Parkway					
14. Harmony Grove Rd to Citracado Pkwy [l]	2-Lane Undivided	16,200	8,220	D	

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TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

(Continued from Previous Page)

Footnotes:

a. Capacities based on City of Escondido and County of San Diego Roadway Classification Tables.
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity ratio.
e. Auto Park Way is currently built as a 6-Ln Major from Mission Road to Meyers Avenue and a 4-Ln Major from Meyers Avenue to Country Club Drive. Therefore, a 5-Ln Major road capacity of 43,500 was used in the analysis.
f. Although Country Club Drive is not a Mobility Element roadway, due to the increased paved width and 45 mph speed limit and reduced shoulder, the roadway functions as a 2.2F Light Collector with an LOS "E" capacity of 9,700 ADT.
g. Country Club Drive from Kauana Loa Drive to the northerly boundary of Harmony Grove Village is currently being improved to modified Rural Light Collector standards per the previously adopted General Plan (corresponding with a 2.2F Light Collector on the currently adopted General Plan) with an ADT capacity of 9,700. South of the Harmony Grove Village Project boundary to Harmony Grove Village Parkway, Country Club Drive is being improved to Rural Collector standards per the previously adopted General Plan (corresponding with 2.2E Light Collector on the currently adopted General Plan) with an ADT capacity of 16,200. For purposes of being conservative, the 9,700 ADT capacity was used in the analysis.
h. From Harmony Grove Village Parkway to Harmony Grove Road, Country Club Drive is being improved to Town Collector standards per the previously adopted General Plan (corresponding with 2.1C Community Collector on the currently adopted General Plan) with an ADT capacity of 19,000.
i. Harmony Grove Road from Wilgen Drive to Country Club Drive is currently being improved to 2.2C Light Collector standards with an ADT capacity of 19,000.
j. Harmony Grove Road from Country Club Drive to Kauana Loa Drive functions as a Rural Light Collector with a LOS C capacity of 16,200 ADT.
k. Harmony Grove Road from Kauana Loa Drive to Enterprise Street is currently built as a two-lane roadway with curb, gutter and sidewalk improvements for the majority of the roadway with a posted speed limit of 40 mph. The roadway is located in both the County and City's jurisdiction; however, the majority of the roadway abuts the County line. Therefore, an LOS E capacity of 9,700 ADT was used in the analysis.
l. Harmony Grove Village Parkway is currently under construction to be built to 2.2E Light Collector standards with an ADT capacity of 19,000.

TABLE 6–3
EXISTING FREEWAY MAINLINE OPERATIONS

Freeway Segment	Dir.	# of Lanes [a]	Hourly Capacity [b]	Volume [c]	Peak Hour Volume [d]		V/C [e]		LOS [f]	
					AM	PM	AM	PM	AM	PM
State Route 78										
1. West of Nordahl Rd	EB	3M+1A	7,200	159,000	4,994	4,983	0.694	0.692	C	C
	WB	3M	6,000		5,862	5,625	0.977	0.938	E	E
2. East of Nordahl Rd	EB	3M+1A	7,200	164,000	4,144	5,097	0.576	0.708	B	C
	WB	4M+1A	9,200		5,663	5,070	0.616	0.551	B	B

Footnotes:

a. Lane geometry taken from PeMS lane configurations at corresponding post miles including SR 78 recent improvements.
b. Capacity calculated at 2000 vehicles per hour (vph) per lane for mainline lanes and 1200 vph for auxiliary lanes, from *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*
c. Existing ADT volumes taken from most recent Caltrans traffic volumes.
d. Peak hour volumes taken from most recent PeMS traffic volumes.
e. V/C = (Peak Hour Volume/Hourly Capacity).
f. LOS = Level of Service.

General Notes:

1. M = Mainline
2. A = Auxiliary

LOS	V/C
A	<0.41
B	0.62
C	0.80
D	0.92
E	1.00
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

7.0 PROJECT TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

7.1 Project Trip Generation

Using the trip generation rates for the "single-family residential" land use type listed in the San Diego Association of Governments (SANDAG) *(Not So) Brief Guide of Vehicular Traffic Generation Rates*, April 2002, the 450-unit original Project is calculated to generate 4,500 ADT, with a total of 360 trips during the AM peak hour (108 inbound/ 252 outbound trips) and 450 total trips during PM peak hour (315 inbound/ 135 outbound). ***Table 7–1*** shows the forecast trip generation for the original Project at 450 dwelling units[1].

The Project description also includes a centrally located 2.5-acre "Commercial/Civic Zone" to implement the Neighborhood Commercial land use designation. The zone will accommodate a variety of civic land uses such as a park, overnight accommodations (up to 4 rooms for exclusive use by Harmony Grove Village South and Harmony Grove Village guests), a gym, an event lawn, and recreational facilities like a pool or clubhouse. The Commercial/Civic Zone will also include a small, public commercial component (5,000 square feet or less) with a minimum 1,500 square feet that will be devoted to commercial uses. This would include "specialty retail" uses to include food/beverage services, such as a café.

The intent of the zone is to foster walkability and serve as a community gathering place, which is supported by the easy access to regional multi-use trails and the proximate location to the planned Harmony Grove Village Equestrian Ranch. The land uses in the zone are community-serving, and any new weekday trips from outside the Project area would be offset by the mixed-use reduction that occurs as Project trips become on-site walk/bike trips or linked trips to the commercial uses.

Appendix F shows a comparison of Project trips between the analyzed Project (450 DU, no Commercial/Civic uses), and the current Project description (453 DU + Commercial/Civic uses). The table in *Appendix F* shows that former generates more traffic because it does not take into account the mixed-use reductions that would occur with a retail component. Therefore, the analysis and conclusions based on the 450 DU description are considered conservative.

Project phasing is not considered in the trip generation calculations. All analyses assume a worst-case 100% Project traffic effect.

7.2 Project Trip Distribution and Assignment

Project trip distribution was developed based on the distribution used for the adjacent Harmony Grove Village residential project including the proposed network improvements currently under construction. The Final Certified EIR for the Harmony Grove Village Project was approved by both the County of San Diego Board of Supervisors and City of Escondido. The Harmony Grove Village

[1] The current site plan shows an additional 3 units (453 DU) over the original 450 DU analyzed in this report. The additional 30 ADT (2 AM peak hour and 3 PM peak hour trips) would have a nominal effect on the analysis and would not change the conclusions of significance.

project utilized a SANDAG Select Zone Assignment which distributes trips in the area based on the location of residential and employment opportunities in the surrounding vicinity.

Generally, eight percent (8%) of trips were distributed to/from the southwest on Harmony Grove Road, 22% of trips were distributed to/from Country Club Drive in the north, and 70% were distributed to/from Harmony Grove Road in the northeast.

The proposed project could include the commercial/civic uses more particularly listed in the Project's Specific Plan document. The specific commercial retail tenant is not known at this time.

The Project will include a pedestrian oriented 5,000 square foot community center (Center House) which will contain a minimum of 1,500 square feet of commercial uses. The Center House is designed to feature a commercial use, such as a café, coffee shop, hair or nail salon, or day spa. The residents within the community would be able to visit the commercial business without generating additional primary vehicle trips. The Center House will also include such uses as a park, overnight accommodations of up to 4 rooms that can only be used by HGVS and HGV guests, a gym, an event lawn, and private recreational facilities like a pool or clubhouse that can be only be uses by HGVS. Other uses could include a day care center, administrative and professional services; business support services; convenience sales; cultural exhibits and library services; eating and drinking establishments; Farmer's Market; food and beverage retail sales; gym, exercise studio; open space and personal services such as a hair or nail salon, day spa. The Center House will act as a pedestrian-oriented place with amenities and services that encourage people from HGVS and the adjacent HGV to walk to by using the interconnected trails and pathways and serves as a destination gathering place for HGVS. By placing the residential units within one-half-mile of the commercial/civic uses, it will promote walking and cycling, and the related reduction of vehicular travel.

The nature of the commercial/civic uses would be to be locally serving, and the majority of trips would be expected to be pass-by or diverted trips already on the road for another purpose. As such, trips from outside of the Harmony Grove Villages area would not be expected to/from these uses in any meaningful way. Therefore the residential distribution discussed above adequately includes any trips associated with these non-residential uses.

Figure 7–1 shows the Project traffic distribution. ***Figure 7–2*** shows the assignment of Project trips. ***Figure 7–3*** shows the Existing + Project traffic volumes.

TABLE 7–1
PROJECT TRIP GENERATION

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate [a]	Volume	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total	% of ADT	In:Out Split	Volume In	Volume Out	Volume Total
Single-Family Residential	450[b] DU	10 /DU	4,500	8%	3:7	108	252	360	10%	7:3	315	135	450

Footnotes:

a. Rate is based on SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002.

b. With the proposed increase in units to 453 DU since the preparation of this traffic study analysis, an additional 30 ADT with 2 AM (1 inbound/ 1 outbound) and 3 PM (2 inbound/ 1 outbound) peak hour trips would be generated. With the addition of these trips, no change the conclusions of significance presented in this report would occur.

General Notes:

1. ADT = Average daily traffic, rounded to the nearest tenth.
2. DU = Dwelling Units
3. See *Appendix F* for the trip generation calculations including the commercial/civic land uses and associated mixed-use reductions.

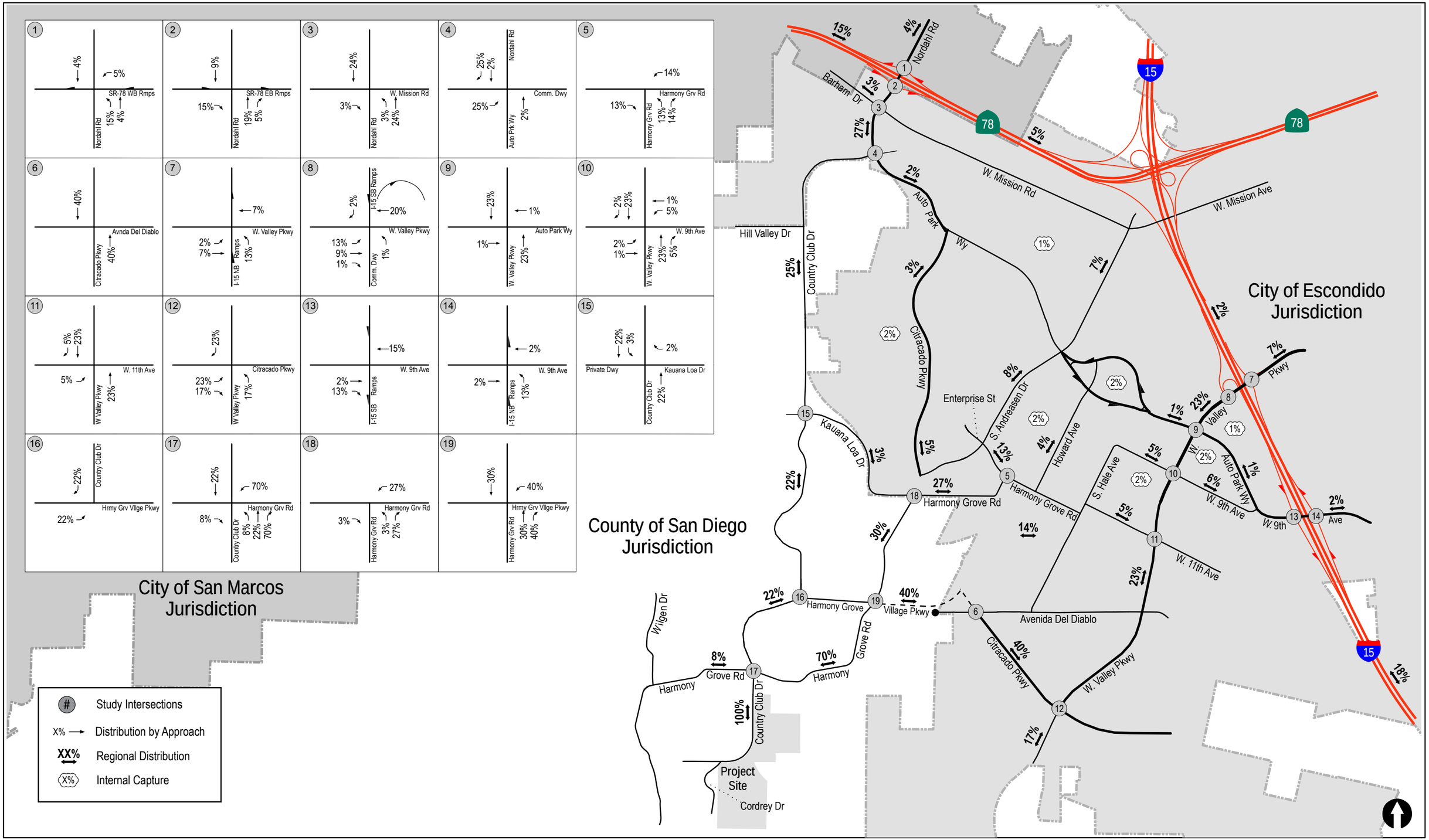

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Figure 7-1

Project Traffic Distribution

HARMONY GROVE PARCEL

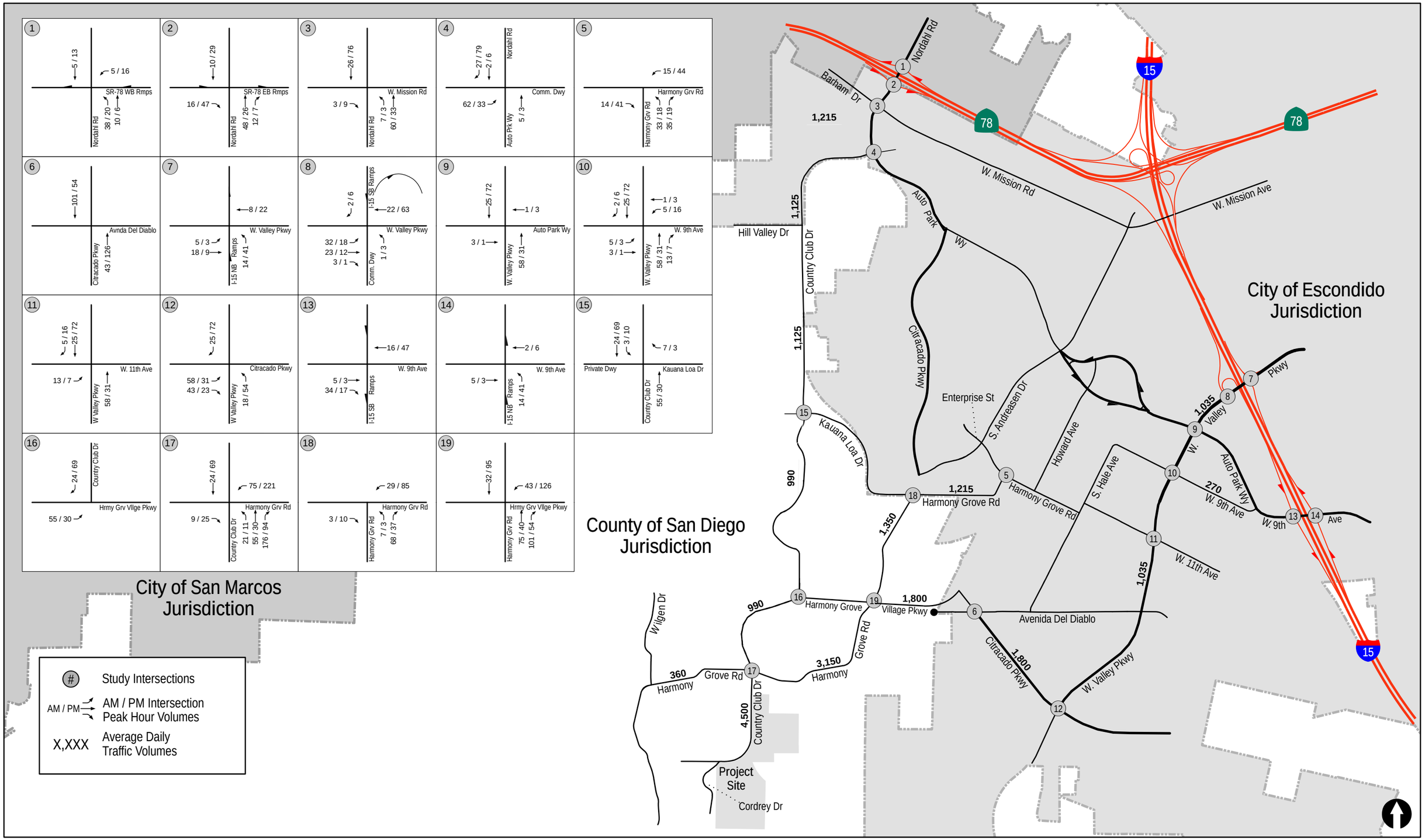

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Figure 7-2

Project Traffic Volumes

HARMONY GROVE PARCEL

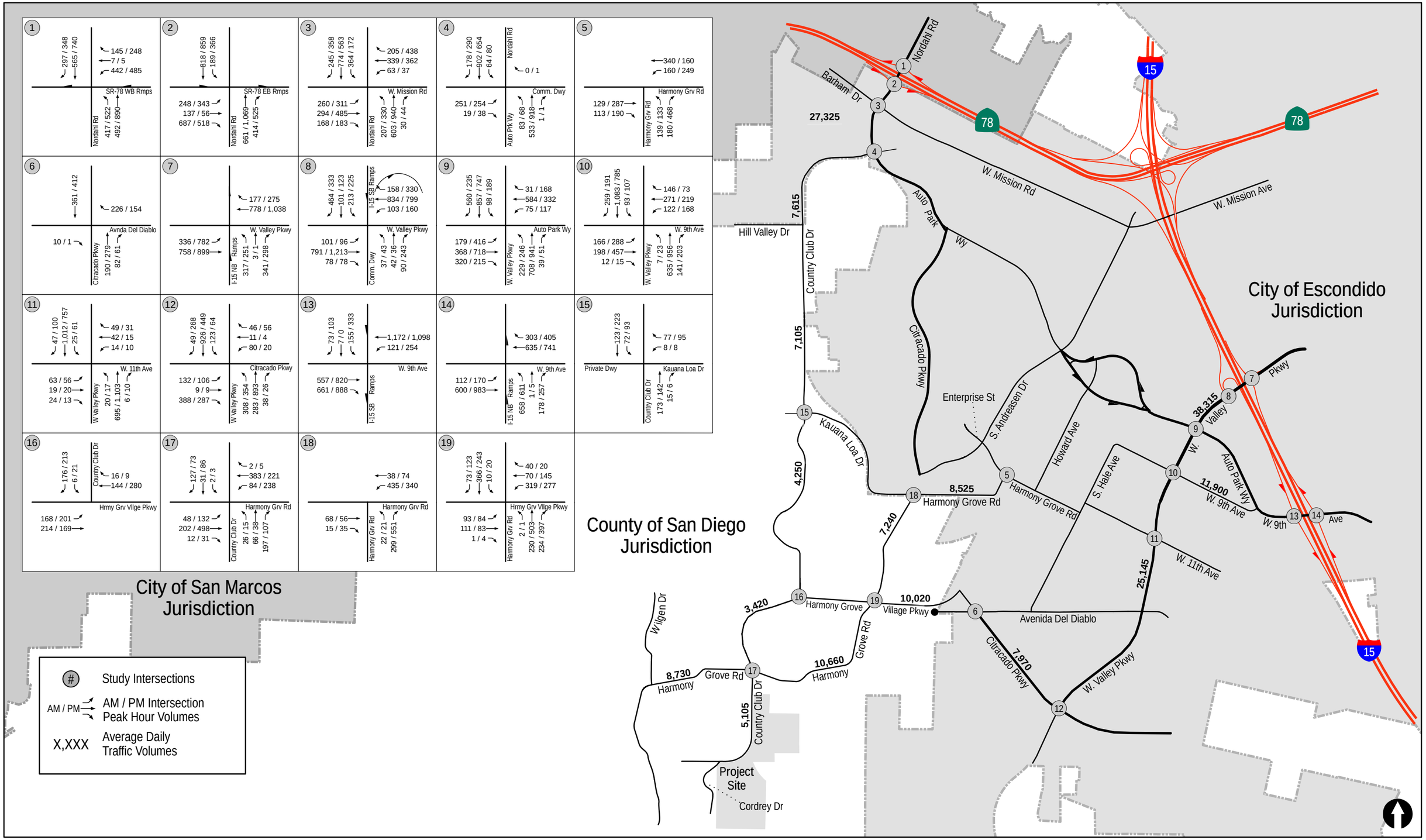

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Figure 7-3

Existing + Project Traffic Volumes

HARMONY GROVE PARCEL

8.0 EXISTING + CUMULATIVE PROJECTS CONDITIONS

8.1 Summary of Cumulative Projects

Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. Based on research conducted for the cumulative condition, two (2) County of San Diego projects, 31 City of San Marcos projects, and five (5) City of Escondido projects were identified for inclusion in the traffic study. The following is a brief description of each of the cumulative projects in the general vicinity of the Project.

COUNTY OF SAN DIEGO

1. **Valiano** is a 334-unit residential development located west of Country Club Drive and south of Hill Valley Road in the County of San Diego, adjacent to the cities of San Marcos and Escondido.

2. **Harmony Grove Industrial Park** is a 13.53-acre industrial development located at the Enterprise Street / Andreasen Drive intersection.

CITY OF SAN MARCOS

1. **University District Specific Plan –** The 194 acre proposed project is located on Twin Oaks Valley Road, north of Discovery Street. The project proposes 1,000,000 square feet of commercial, 938,000 square feet of office space, 2,600 units of mixed-use residential, 800 units of student housing, and 450 hotel rooms.

2. **Palomar Station** is a proposed mixed-use developed that consists of 333 residential units, 55,260 square feet of commercial, and 9,800 square feet of office space. The project is located on Las Posas Road both north and south of Armorlite Drive.

3. **San Marcos Creek District Specific Plan** is a proposed mixed-use development that consists of 2,300 residential units, 1.3 million square feet of commercial, and 589,000 square feet of office space. The project is located on San Marcos Boulevard between Via Vera Cruz and SR 78.

4. **Rancho Santalina** is a 237-unit residential development located north of Las Flores Drive and South Santa Fe Road.

5. **San Elijo Hills** is a specific plan area that consists of 3,398 residential units, 97,000 square feet of commercial, 100,000 square feet of office space, 1,050 acres of open space and 59 acres for elementary school use. The project is located near the intersection of San Elijo Hills and Elfin Forest Road.

6. **Marketplace @ Twin Oaks** is a proposed mixed-use development that consists of a 168,419 square foot shopping center, a 2-story and a 3-story office building. The project is located

near the southwest corner of the intersection of Twin Oaks Valley Road and San Marcos Boulevard.

7. **University of St. Augustine** is a proposed physical therapy graduate school consisting of 77,500 square feet in Phase 1 and 44,000 square feet in Phase 2. The project is located at 700 Windy Point Drive.

8. **Pacific Industrial No.1** is a proposed 22,160 square foot industrial building. The project is located on Pacific Street, north of Grand Avenue.

9. **Old Creek Ranch** is a proposed development consisting of 401 single-family homes, 1,123 multifamily homes, 103 acres light industrial and 181 acres of open space on 416 total acres. The project is located on San Elijo Road east of Rancho Santa Fe Road.

10. **Kachay Homes** is a proposed development consisting of 8 single-family homes on a one-acre lot subdivision. The project is located on the southeast corner of Richland and Mulberry Road.

11. **Kaiser Hospital Medical Office** is a 3-story, 70,667 square foot outpatient medical office building and 335 parking stalls. The project is located at 400 Craven Road.

12. **Westlake Village** is a proposed mixed-use development containing 105 residential units and 5,000 square feet of commercial space located on Autumn Drive.

13. **Heritage Ranch** is an approved 16 unit residential development on Richland Road.

14. **East Gate** proposes a mixed-use development of 42 multi-family affordable housing units and 11,285 SF of retail/commercial. The site is located on the northwest corner of Grand Avenue and Future Creekside Road.

15. **Campus Pointe II** proposed to construct 108 residential units and 10,000 SF of retail space (previously approved as "The Quorum"). The grading phase was underway as of June 2012 with the residential portion under construction.

16. **Davia Village (Milano Holdings, Inc.)** proposes a mixed-use project of 3-stories, 368 residential apartments, 19,855 SF of commercial/retail, and 8,895 SF of live/work units. The project is located at 1001 Armorlite Drive.

17. **Windy Point Development** is four proposed light industrial buildings and three office buildings on Borden Road at the extension of Windy Way. An application has been submitted to modify the industrial buildings to an office park.

18. **Parkview Apartments** is a proposed development of 81 affordable housing units and 4,500 square feet of commercial development. The project is located at 210-262 Chinaberry and 351 Autumn Drive.

19. **San Elijo Hills Town Center** is a mixed-use development that consists of 12,000 square feet of ground-floor commercial space and 12 condominiums. The project is located at San Elijo Road and Elfin Forest Road.

20. **Main Street Plaza** is a proposed mixed-use development that consists of 475 apartments, 62,080 square feet of commercial use, 14,800 square feet of office use, 40,000 square feet of residential storage, and a 4,559 gym/lounge. The project is located in the San Marcos Creek District Specific Plan area at 1167 West San Marcos Boulevard.

21. **Richmar Specific Plan** is the evaluation of a Specific Plan focusing on mixed-use development between Richmar Avenue and Mission Road and along Autumn Drive with extension of Tiger Way. The project is located south of Richmar Avenue to the area north of San Marcos Elementary School, south of Autumn Drive, and from Paseo de Oro to Firebird.

22. **The Promenade @ Creekside** is a proposed mixed-use development that consists of 98 apartments and 26,491 square feet of commercial use. The project is located in the San Marcos Creek District Specific Plan area at South Bent Avenue and Grand Avenue.

23. **The Quad at CSUSM** is a proposed 5-story mixed-use building consisting of 174,000 square feet of student housing and retail space.

24. **Sonic Drive-In** is a proposed 1,795 square foot drive-in restaurant with 899 square feet of covered outdoor dining area. The project is located at the southeast corner of Grand Avenue and Via Vera Cruz.

25. **Pacific Commercial** is a project proposing development of 31,776 square feet of commercial space on a 2.77 acre lot at the northeast corner of Grand Avenue and Pacific Street.

26. **Nicholas Banche** is a proposed development of 11 single-family homes in the area of Poinsettia Avenue and Specialty Drive.

27. **Candera** is a partially complete development constructing 50 multi-family units and 8 single-family homes. The project is located at Bougher Road and Via Camellia.

28. **Leigh Hanson site** is a proposed Specific Plan Amendment to allow the construction of 346 dwelling units consisting of single family and duplex units, and a K-8 school. The project is located on Twin Oaks Valley Road, south of Craven Road.

29. **San Marcos Highlands** is a proposed project consisting of 198 single family homes located at the northern terminus of Las Posas Road.

30. **UK Investments, LLC** is a proposed project consisting of 35 units of multi-family housing on N. Alda Drive.

31. **Shane Park Plaza** is a proposed mixed-use neighborhood shopping center consisting of 6,138 square feet of retail use and 19 multi-family dwelling units. The project is located on Rancho Santa Fe Road between Grand Avenue and La Mirada Drive.

CITY OF ESCONDIDO

1. **Escondido Asphalt Expansion** is located at 500 North Tulip Street and proposes to expand the operations of an existing asphalt concrete plant from 250,000 tons per year of material to 400,000 tons per year.

2. **Springhill Suites by Marriott** is located at 300 La Terraza Boulevard in the City of Escondido. The project consists of 105 hotel rooms.

3. **350 La Terraza Boulevard** is located on La Terraza Boulevard north of 9th Avenue and south of Valley Parkway in the City of Escondido. The project consists of a 44,000-square foot office building.

4. **City Square Residential** project is located at the southeast corner of the Centre City Parkway / 2nd Avenue intersection in the City of Escondido. This project consists of developing 102 multifamily dwelling units, 20 of which are already developed.

5. **Escondido Research and Technology Center (ERTC)** is a research center comprising of 208 acres located along the future alignment of Citracado Parkway in the City of Escondido.

8.2 Network Conditions

Several network improvements are proposed by the cumulative projects listed above. However, since the timeframe for construction of the majority of these improvements is unknown, the existing lane geometries with the inclusion of the Harmony Grove Village network improvements currently under construction were assumed as the baseline conditions in the Existing + Cumulative scenarios. This is a conservative approach in that cumulative project volumes are included without including the corresponding cumulative network mitigation.

In addition, the Citracado Parkway Extension project was not included in the near-term conditions per the direction of City of Escondido staff. The extension project is delayed due to funding issues. In October 2015, the City of Escondido's attempt to receive funding through the Transportation Investment Generating Economic Recovery (TIGER) grant program, distributed by the U.S.

Department of Transportation, was denied. Therefore, due to a lack of funding and an unknown timeframe for completion, this connection was not included in the near-term analysis.

8.3 Traffic Volumes

In order to forecast traffic volumes for the cumulative condition, the SANDAG North County Model traffic model, the County of San Diego *General Plan* traffic model, and the recently adopted Escondido *General Plan* traffic model were reviewed. Land use assumptions contained in these forecast models within the Project area were reviewed and cumulative projects listed in the section above were determined to be included in the traffic volume forecast. All of these projects were assumed to be completed by the near-term condition, with the exception of the University District Specific Plan and the San Marcos Creek District Specific Plan.

In order to forecast intersection traffic volumes for the Existing + Cumulative Projects condition, the forecast ADT volumes taken from the SANDAG models were then used to calculate peak hour volumes based partially on the existing relationship between ADT and peak hour volumes. This same relationship can be assumed to generally continue in the future.

Figure 8–1 depicts the Existing + Cumulative Projects traffic volumes and ***Figure 8–2*** shows the Existing + Project + Cumulative Projects traffic volumes in the study area.

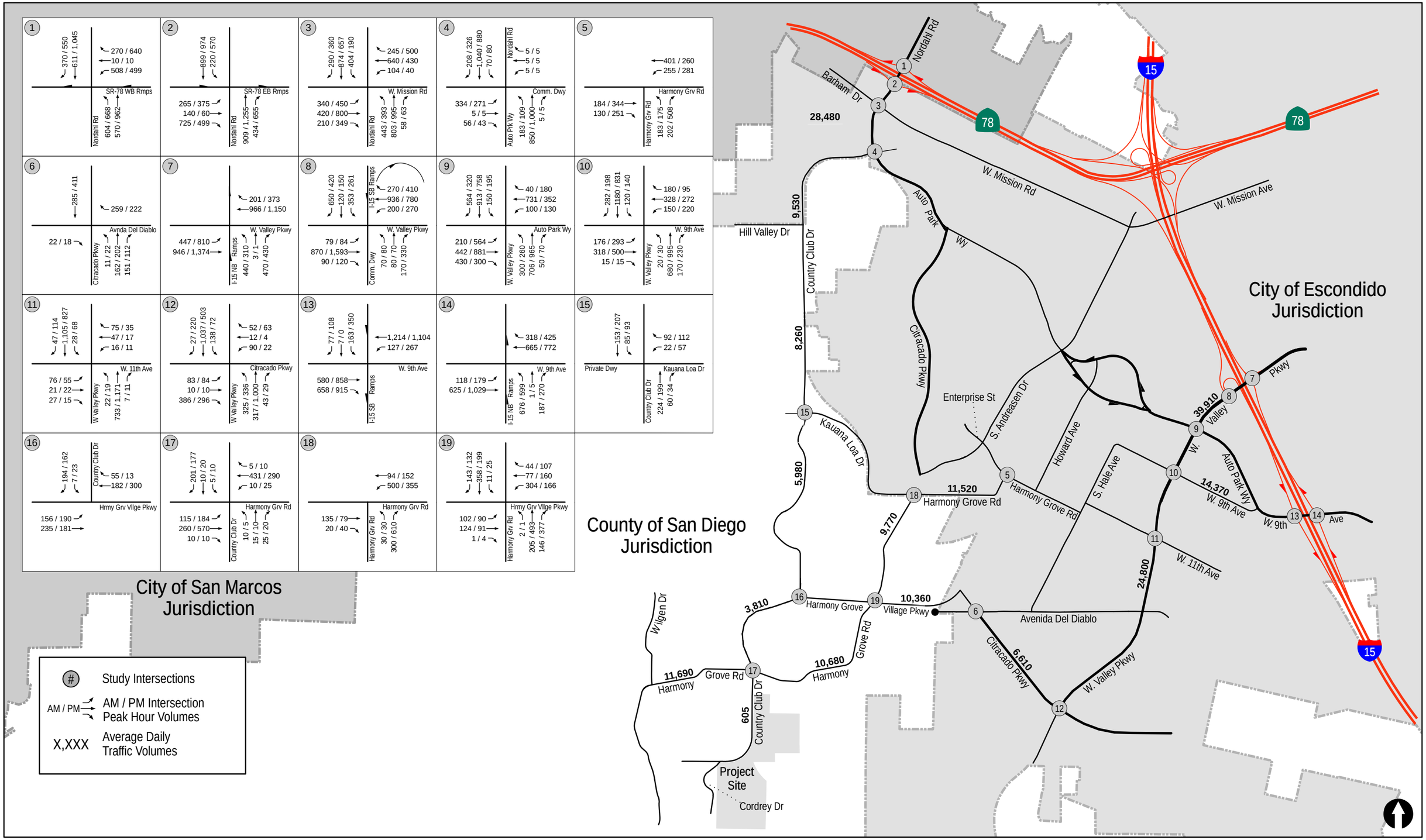

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Figure 8-1

Existing + Cumulative Projects Traffic Volumes

HARMONY GROVE PARCEL

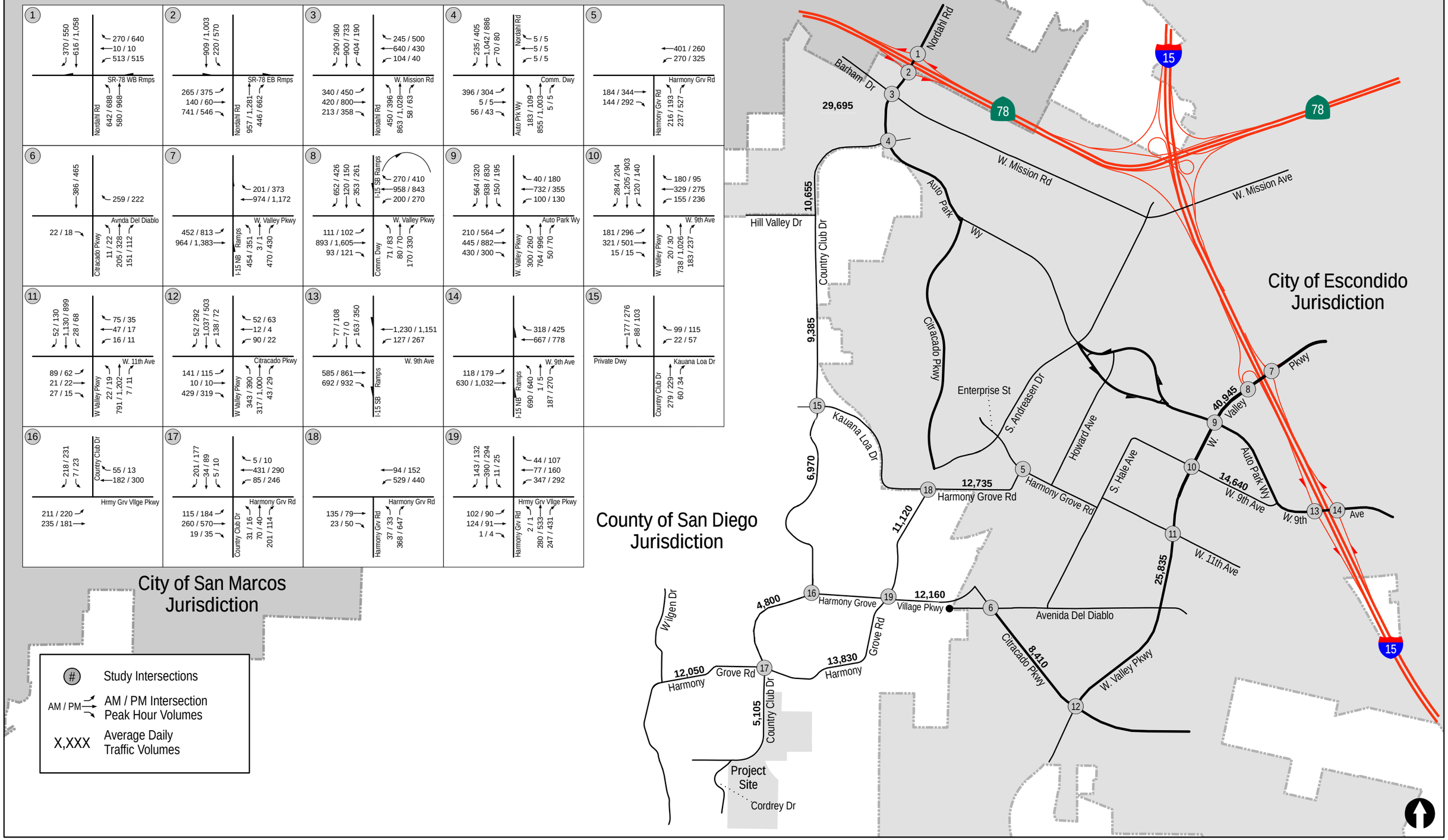

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Figure 8-2

Existing + Project + Cumulative Projects Traffic Volumes

HARMONY GROVE PARCEL

9.0 ANALYSIS OF NEAR-TERM SCENARIOS

9.1 Existing + Project Conditions

9.1.1 *Peak Hour Intersection Levels of Service*

Table 9–1 summarizes the Existing + Project intersections LOS. As seen in *Table 9–1*, with the addition of Project traffic, the following intersections are calculated to operate at unacceptable levels of service:

City of Escondido

- Intersection #10. Valley Parkway / 9th Avenue – LOS D in the PM peak hour

Based on the applied significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic since the Project-induced increase in delay is less than 2.0 seconds for LOS D operating intersections within the City of Escondido.

County of San Diego

- **Intersection #17. Country Club Drive/ Harmony Grove Road – LOS F in the PM peak hour** *(Signalized)*

Based on the applied significance criteria, **one (1) significant direct impact** was calculated with the addition of Project traffic at the locations **bolded** and underlined above since the Project-induced increase in delay results in LOS F operations at this signalized intersection located within the County of San Diego.

Appendix G contains the Existing + Project intersection analysis worksheets.

9.1.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Existing + Project roadway segment LOS. As seen in *Table 9–2*, with the addition of Project traffic, the following segments are calculated to operate at unacceptable levels of service:

City of Escondido

- **Segment #6. Country Club Drive: Auto Park Way to Hill Valley Road (LOS D)**

Based on the applied significance criteria, **one (1) significant direct impact** was calculated with the addition of Project traffic at the location **bolded** and underlined above since the Project-induced increase in V/C is greater than 0.02 for LOS D operating street segments within the City of Escondido.

9.1.3 *Freeway Mainline Operations*

Table 9–3 summarizes the Existing + Project freeway mainline operations on SR 78. As seen in *Table 9–3*, with the addition of Project traffic the following segments of SR 78 operate at unacceptable levels of service:

- Mainline #1. SR 78 Westbound, west of Nordahl Road: LOS E/E during the AM/PM peak hours

Based on the applied significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic since the Project-induced increase in V/C is less than 0.02 for LOS D operating freeway mainline segments.

9.2 Existing + Cumulative Project Conditions

9.2.1 *Peak Hour Intersection Levels of Service*

Table 9–1 summarizes the Existing + Cumulative Projects intersections LOS. As seen in *Table 9–1*, with the addition of cumulative projects traffic, the following intersections are calculated to operate at unacceptable levels of service:

City of Escondido

- Intersection #3. Auto Park Way / Mission Rd –LOS D/D during the AM/PM peak hours
- Intersection #7. Valley Pkwy / I-15 NB Ramps – LOS D during the PM peak hour
- Intersection #8. Valley Pkwy / I-15 SB Ramps – LOS D/E during the AM/PM peak hours
- Intersection #9. Valley Pkwy / Auto Park Way – LOS D/D during the AM/PM peak hours
- Intersection #10. Valley Pkwy / 9th Ave – LOS D during the PM peak hour
- Intersection #12. Valley Pkwy / Citracado Pkwy – LOS D during the AM peak hour

Appendix H contains the Existing + Cumulative Projects intersection analysis worksheets.

9.2.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Existing + Cumulative Projects roadway segment LOS. As seen in *Table 9–2*, with the addition of cumulative projects traffic, the following segments are calculated to operate at unacceptable levels of service:

City of Escondido

- Segment #5. 9th Avenue: Valley Parkway to Auto Park Way – LOS E
- Segment #6. Country Club Drive: Auto Park Way to Hill Valley Road – LOS E

County of San Diego

- Segment #13. Harmony Grove Road: Kauana Loa Drive to Enterprise Street – LOS F *(Unsignalized)*

9.2.3 *Freeway Mainline Operations*

Table 9–3 summarizes the Existing + Cumulative Projects freeway mainline operations on SR 78. As seen in *Table 9–3*, with the addition of cumulative projects traffic, the following segments of SR 78 operate at unacceptable levels of service:

- Mainline #1. SR 78 Westbound, west of Nordahl Road: LOS F(0)/F(0) during the AM/PM peak hours

9.3 Existing + Project + Cumulative Projects Conditions

9.3.1 *Peak Hour Intersection Levels of Service*

Table 9–1 summarizes the Existing + Project + Cumulative Projects intersections LOS. As seen in *Table 9–1*, with the addition of Project traffic and cumulative project traffic, the following intersections are calculated to operate at unacceptable levels of service:

City of Escondido

- Intersection #3. Auto Park Way / Mission Rd –LOS D/D during the AM/PM peak hours
- **Intersection #4. Auto Park Way / Country Club Dr – LOS D during the AM peak hour**
- Intersection #7. Valley Pkwy / I-15 NB Ramps – LOS D during the PM peak hour
- Intersection #8. Valley Pkwy / I-15 SB Ramps – LOS D/E during the AM/PM peak hours
- Intersection #9. Valley Pkwy / Auto Park Way – LOS D/D during the AM/PM peak hours
- Intersection #10. Valley Pkwy / 9th Ave – LOS D during the PM peak hour
- **Intersection #12. Valley Pkwy / Citracado Pkwy – LOS D during the AM peak hour**

Based on the applied significance criteria, **two (2) significant cumulative impacts** were calculated with the addition of Project traffic and cumulative projects traffic at the intersections **bolded** and underlined above since the Project-induced increase in delay is greater than 2.0 seconds for LOS D operating intersections within the City of Escondido.

County of San Diego

- **Intersection #17. Country Club Drive / Harmony Grove Rd – LOS F during the PM peak hour** *(Signalized)*
- **Intersection #18. Harmony Grove Rd / Kauana Loa Dr – LOS E/F during the AM/PM peak hours** *(Unsignalized)*

Based on the applied significance criteria, **two (2) significant cumulative impacts** were calculated with the addition of Project traffic and cumulative projects traffic at the intersections **bolded** and underlined above since the Project-induced increase in delay results in LOS F operations at the signalized intersection and the Project adds greater than 20 peak hour trips or 5 peak hour trips to unsignalized County intersections operating at LOS E or F, respectively.

Appendix I contains the Existing + Project + Cumulative Projects intersection analysis worksheets.

9.3.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Existing + Project + Cumulative Projects roadway segment LOS. As seen in *Table 9–2* with the addition of Project traffic and cumulative project traffic, the following segments are calculated to operate at unacceptable levels of service:

City of Escondido

- Segment #5. 9th Avenue: Valley Parkway to Auto Park Way – LOS E
- **Segment #6. Country Club Drive: Auto Park Way to Hill Valley Road – LOS F**

County of San Diego

- Segment #7. Country Club Drive: Hill Valley Drive to Kauana Loa Drive – LOS E
- **Segment #11. Harmony Grove Road: Country Club Drive to Harmony Grove Village Parkway – LOS E**
- **Segment #12. Harmony Grove Road: Harmony Grove Village Parkway to Kauana Loa Drive – LOS E**
- **Segment #13. Harmony Grove Road: Kauana Loa Drive to Enterprise Street – LOS F**
- **Segment #14. Harmony Grove Village Parkway: Harmony Grove Village Road to Citracado Parkway – LOS E**

Based on the applied significance criteria, **five (5) significant cumulative impacts** were calculated with the addition of Project traffic and cumulative projects traffic on the street segments **bolded** and underlined above since the Project-induced increase in V/C is greater than 0.02 for LOS E or F operating street segments in the City of Escondido and since the Project adds greater than 200 or 100 ADT to County street segments operating at LOS E or F, respectively. .

9.3.3 *Freeway Mainline Operations*

Table 9–3 summarizes the Existing + Project + Cumulative Projects freeway mainline operations on SR 78. As seen in *Table 9–3*, with the addition of Project traffic and cumulative projects traffic, the following segments of SR 78 operate at unacceptable levels of service:

- Mainline #1. SR 78 Westbound, west of Nordahl Road: LOS F(0)/F(0) during the AM/PM peak hours

Based on the applied significance criteria, **no significant cumulative impacts** were calculated with the addition of Project traffic and cumulative projects traffic since the Project-induced increase in V/C is less than 0.01 for LOS F(0) operating freeway mainline segments.

TABLE 9–1
NEAR-TERM INTERSECTION OPERATIONS

Intersection	Jur.	Control Type	Peak Hour	Existing		Existing + Project			Existing + Cumulative Projects		Existing + Project + Cumulative Projects			Impact Type
				Delay [a]	LOS [b]	Delay	LOS	Δ [c]	Delay	LOS	Delay	LOS	Δ [c]	
1. Nordahl Rd / SR 78 WB Ramps	City	Signal	AM	22.4	C	22.5	C	0.1	27.1	C	30.1	C	3.0	None
			PM	25.2	C	25.7	C	0.5	31.6	C	32.1	C	0.5	
2. Nordahl Rd / SR 78 EB Ramps	City	Signal	AM	21.6	C	21.6	C	0.0	22.1	C	22.9	C	0.8	None
			PM	20.4	C	21.1	C	0.7	29.4	C	31.9	C	2.5	
3. Auto Park Way / Mission Rd	City	Signal	AM	32.1	C	32.1	C	0.0	51.9	D	52.6	D	0.7	None
			PM	33.7	C	34.1	C	0.4	49.5	D	50.0	D	0.5	
4. Auto Park Way / Country Club Dr	City	Signal	AM	16.8	B	19.5	B	2.7	30.7	C	**37.3**	**D**	**6.6**	**Cumulative**
			PM	17.5	B	18.9	B	1.4	22.4	C	25.3	C	2.9	
5. Harmony Grove Rd / Enterprise St	City	Signal	AM	13.1	B	13.1	B	0.0	15.0	B	15.4	B	0.4	None
			PM	14.8	B	15.7	B	0.9	17.3	B	18.7	B	1.4	
6. Avenida Del Diablo / Citracado Pkwy	City	Signal	AM	10.0	B	10.2	B	0.2	10.4	B	10.6	B	0.2	None
			PM	9.5	A	10.1	B	0.6	10.3	B	11.1	B	0.8	
7. Valley Pkwy / I-15 NB Ramps	City	Signal	AM	26.5	C	26.7	C	0.2	31.0	C	31.2	C	0.2	None
			PM	35.1	D	36.0	D	0.9	39.3	D	40.6	D	1.3	
8. Valley Pkwy / I-15 SB Ramps	City	Signal	AM	31.1	C	31.8	C	0.7	39.9	D	39.9	D	0.0	None
			PM	32.7	C	33.2	C	0.5	63.0	E	64.6	E	1.6	
9. Valley Pkwy / Auto Park Way	City	Signal	AM	30.6	C	30.7	C	0.1	38.4	D	38.5	D	0.1	None
			PM	32.2	C	32.4	C	0.2	46.3	D	46.3	D	0.0	
10. Valley Pkwy / 9th Ave	City	Signal	AM	26.6	C	27.1	C	0.5	31.3	C	31.7	C	0.4	None
			PM	36.2	C	36.9	D	0.7	49.4	D	50.7	D	1.3	
11. Valley Pkwy / 11th Ave	City	Signal	AM	16.1	B	16.4	B	0.3	16.2	B	16.8	B	0.6	None
			PM	14.2	B	15.2	B	1.0	16.9	B	17.1	B	0.2	
12. Valley Pkwy / Citracado Pkwy	City	Signal	AM	30.1	C	33.8	C	3.7	36.7	D	**44.0**	**D**	**7.3**	**Cumulative**
			PM	24.7	C	27.2	C	2.5	26.6	C	29.1	C	2.5	
13. Auto Park Way / I-15 SB Ramps	City	Signal	AM	17.7	B	18.6	B	0.9	19.1	B	20.5	C	1.4	None
			PM	24.1	C	24.4	C	0.3	27.1	C	27.9	C	0.8	
14. Auto Park Way / I-15 NB Ramps	City	Signal	AM	21.9	C	22.1	C	0.2	22.5	C	22.7	C	0.2	None
			PM	21.0	C	21.6	C	0.6	21.7	C	22.3	C	0.6	

(Continued on Next Page)

TABLE 9–1
NEAR-TERM INTERSECTION OPERATIONS

Intersection	Jur.	Control Type	Peak Hour	Existing		Existing + Project			Existing + Cumulative Projects		Existing + Project + Cumulative Projects			Impact Type
				Delay [a]	LOS [b]	Delay	LOS	Δ [c]	Delay	LOS	Delay	LOS	Δ [c]	
(Continued from Previous Page)														
15. Country Club Dr / Kauana Loa Dr	County	AWSC [e]	AM	8.2	A	8.7	A	–	9.8	A	10.7	B	–	None
			PM	8.8	A	9.7	A	–	10.6	B	12.2	B	–	
16. Country Club Dr / Harmony Grove Village Pkwy	County	AWSC	AM	8.9	A	9.4	A	–	10.0	B	10.8	B	–	None
			PM	10.3	B	11.4	B	–	11.1	B	12.4	B	–	
17. Country Club Dr / Harmony Grove Rd	County	Signal	AM	30.5	C	39.7	D	–	40.4	D	43.1	D	–	**Direct & Cumulative**
			PM	36.6	D	**>100.0**	**F**	**>2.0**	49.9	D	**>100.0**	**F**	**>2.0**	
18. Harmony Grove Rd / Kauana Loa Dr	County	MSSC [f]	AM	12.0	B	14.2	B	–	25.6	D	**48.6**	**E**	**75 [g]**	**Cumulative**
			PM	15.2	C	18.4	C	–	32.2	D	**63.5**	**F**	**40 [g]**	
19. Harmony Grove Rd / Harmony Grove Village Pkwy	County	Signal	AM	24.2	C	25.1	C	–	25.5	C	26.6	C	–	None
			PM	20.9	C	24.1	C	–	24.9	C	26.9	C	–	

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the Project-induced increase in delay for intersections located in the City of Escondido. "Δ" denotes the Project-induced increase in delay for signalized intersections and Project traffic added to the critical movement for unsignalized intersections located in the County of San Diego.
d. Project increases in delay or number of trips only shown for County intersection where LOS E or F operations are reported.
e. AWSC – All Way Stop Controlled intersection. Average intersection delay is reported.
f. MSSC – Minor Street Stop Controlled intersection. Minor street left-turn delay is reported.
g. Both the northbound left-turn and right-turn volumes are shown for the LOS E/F intersection since the existing geometry provides one shared lane for both movements.

General Notes:

1. DNE = Does not exist.
2. **Bold** typeface and shading represents a significant impact.
3. Jur. = Jurisdiction, City = City of Escondido

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 9–2
NEAR-TERM STREET SEGMENT OPERATIONS

City of Escondido Street Segments	Existing Capacity (LOS E) [a]	Existing			Existing + Project				Existing + Cumulative Projects			Existing + Project + Cumulative Projects				Impact Type
		ADT [a]	LOS [b]	V/C	ADT	LOS	V/C	Δ [d]	ADT	LOS	V/C	ADT	LOS	V/C	Δ [d]	
Auto Park Way																
1. Mission Rd to Country Club Dr [f]	43,500	26,110	B	0.600	27,325	B	0.628	0.028	28,480	B	0.655	29,695	C	0.683	0.028	None
Citracado Parkway																
2. Avenida Del Diablo to Valley Pkwy	15,000	6,170	B	0.411	7,970	B	0.531	0.120	6,610	B	0.441	8,410	C	0.561	0.120	None
Valley Parkway																
3. 11th Ave to Citracado Pkwy	37,000	24,110	C	0.652	25,145	C	0.680	0.028	24,800	C	0.670	25,835	C	0.698	0.028	None
4. Auto Park Wy to I-15 SB Ramps	70,000	37,280	B	0.533	38,315	C	0.547	0.014	39,910	C	0.570	40,945	C	0.585	0.015	None
9th Avenue																
5. Valley Pkwy to Auto Park Way	15,000	11,630	D	0.775	11,900	D	0.793	0.018	14,370	E	0.958	14,640	E	0.976	0.018	None
Country Club Drive																
6. Auto Park Way to Hill Valley Dr	10,000	6,490	C	0.649	**7,615**	**D**	**0.762**	**0.113**	9,530	E	0.953	**10,655**	**F**	**1.066**	**0.113**	**Direct & Cumulative**

County of San Diego Street Segments	Existing Capacity (LOS E) [a]	Existing		Existing + Project			Existing + Cumulative Projects		Existing + Project + Cumulative Projects			Impact Type
		ADT	LOS	ADT	LOS	Δ [d]	ADT	LOS	ADT	LOS	Δ [d]	
Country Club Drive												
7. Hill Valley Dr to Kauana Loa Dr	9,700	5,980	B	7,105	C	—	8,260	D	9,385	E	1,125	Cumulative
8. Kauana Loa Dr to Harmony Gr. Vill. Pkwy	9,700	3,260	A	4,250	A	—	5,980	B	6,970	C	—	None
9. Harmony Gr. Vill. Pkwy to Harmony Grove Rd	19,000	2,430	A	3,420	B	—	3,810	B	4,800	B	—	None
Harmony Grove Road												
10. Wilgen Dr to Country Club Dr	19,000	8,370	C	8,730	C	—	11,690	D	12,050	D	—	None
11. Country Club Dr to Harmony Gr. Vill. Pkwy	16,200	7,510	D	10,660	D	—	10,680	D	**13,830**	**E**	**3,150**	**Cumulative**
12. Harmony Gr. Vill. Pkwy to Kauana Loa Dr	16,200	5,890	C	7,240	D	—	9,770	D	**11,120**	**E**	**1,350**	**Cumulative**
13. Kauana Loa Dr to Enterprise St	9,700	7,310	C	8,525	D	—	11,520	F	**12,735**	**F**	**1,215**	**Cumulative**
Harmony Grove Village Parkway												
14. Harmony Grove Rd to Citracado Pkwy	16,200	8,220	D	10,020	D	—	10,360	D	**12,160**	**E**	**1,800**	**Cumulative**

Footnotes:

a. Capacities based on City of Escondido and County of San Diego Roadway Classification Tables. See *Table 6–2* for detailed notes on roadway capacities for Country Club Drive, Harmony Grove Road, and Harmony Grove Village Parkway.
b. ADT – Average Daily Traffic Volumes.
c. LOS – Level of Service.
d. V/C – Volume to Capacity ratio.
e. "Δ" denotes the Project-induced increase in V/C for City of Escondido roadway segments. "Δ" denotes the Project-induced increase in ADT for segments operating at LOS E or F located in the County of San Diego.
f. Auto Park Way is currently built as a 6-Ln Major from Mission Road to Meyers Avenue and a 4-Ln Major from Meyers Avenue to Country Club Drive. Therefore, a 5-Ln Major road capacity of 43,500 was used in the analysis.

General Notes:

1. **Bold** typeface and shading represents a significant impact.

TABLE 9–3
NEAR-TERM FREEWAY MAINLINE OPERATIONS

Freeway Segment	Dir.	# of Lanes [a]	Hourly Capacity [b]	Existing [c]		V/C [d]		LOS [e]		Existing + Project		V/C		LOS		Δ [f] V/C		Impact Type
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
State Route 78																		
West of Nordahl Rd	EB	3M+1A	7,200	4,994	4,983	0.694	0.692	C	C	5,010	5,030	0.696	0.699	C	C	0.002	0.007	None
	WB	3M	6,000	5,862	5,625	0.977	0.938	E	E	5,900	5,645	0.983	0.941	E	E	0.006	0.003	None
East of Nordahl Rd	EB	3M+1A	7,200	4,144	5,097	0.576	0.708	B	C	4,156	5,104	0.577	0.709	B	C	0.002	0.001	None
	WB	4M+1A	9,200	5,663	5,070	0.616	0.551	B	B	5,668	5,086	0.616	0.553	B	B	0.001	0.002	None

Freeway Segment	Dir.	# of Lanes [a]	Hourly Capacity [b]	Existing + Cumulative Projects		V/C [d]		LOS [e]		Existing + Project + Cumulative Projects		V/C		LOS		Δ [f] V/C		Impact Type
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
State Route 78																		
West of Nordahl Rd	EB	3M+1A	7,200	5,547	5,535	0.770	0.769	C	C	5,563	5,582	0.773	0.775	C	C	0.002	0.007	None
	WB	3M	6,000	6,511	6,248	1.085	1.041	F(0)	F(0)	6,549	6,268	1.091	1.045	F(0)	F(0)	0.006	0.004	None
East of Nordahl Rd	EB	3M+1A	7,200	4,424	5,442	0.615	0.756	B	C	4,436	5,449	0.616	0.757	B	C	0.002	0.001	None
	WB	4M+1A	9,200	6,046	5,413	0.657	0.588	C	B	6,051	5,429	0.658	0.590	C	B	0.001	0.002	None

Footnotes:

a. Lane geometry taken from PeMS lane configurations at corresponding post mile including SR 78 recent improvements.
b. Existing volumes taken from PeMS peak hour data.
c. Capacity calculated at 2000 vehicles per hour (vph) per mainline lane (pcphpl) and 1200 vph per lane for auxiliary lanes from *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*
d. V/C = (Peak Hour Volume/Hourly Capacity)
e. LOS = Level of Service
f. "Δ" denotes the Project-induced increase in V/C. Per SANTEC/ITE Guidelines, a significant impact occurs when the V/C is increased by 0.01 for LOS E or F.

General Notes:

1. M = Mainline
2. A = Auxiliary

LOS	V/C
A	<0.41
B	0.62
C	0.80
D	0.92
E	1.00
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

10.0 BUILDOUT ASSESSMENT

A buildout analysis was completed since the proposed Project land uses would generate more traffic than were project for the parcel in the *General Plan*. Per County criteria, a buildout analysis is conducted to determine whether the proposed land use changes would require any changes to the *Mobility Element* roadway classifications. The buildout analysis presented in this section compares the adopted *General Plan* to the proposed Project.

10.1 Network Conditions

This section describes the buildout of the street system based on the *General Plan* roadway classifications for City of Escondido and County of San Diego study area roadways, respectively. Per County guidelines, the *General Plan Mobility Element* roadway classifications were used in the LOS analysis provided in this report.

Table 10–1 displays the City of Escondido *General Plan Mobility Element* and County of San Diego *General Plan Mobility Element* roadway classifications for study area street segments.

TABLE 10–1
GENERAL PLAN STREET SEGMENT CLASSIFICATIONS

Street Segments	Currently Built As		Adopted *General Plan* Classification [a]	
	Roadway Type	Capacity	Roadway Type	Capacity
City of Escondido				
Auto Park Way				
1. Mission Rd to Country Club Dr	5-Ln Divided	43,500	6-Ln Super Major Road	50,000
Citracado Parkway				
2. Avenida Del Diablo to Valley Pkwy	2-Ln Divided	15,000	4-Ln Major Road	37,000
Valley Parkway				
3. 11th Ave to Citracado Pkwy	4-Ln Divided	37,000	4-Ln Major Road	37,000
4. Auto Park Wy to I-15 SB Ramps	8-Ln Divided	70,000	6-Ln Prime Arterial [b]	60,000
9th Avenue				
5. Valley Pkwy to Auto Park Way	2-Ln Undivided	15,000	4-Lane Collector	34,200
Country Club Drive				
6. Auto Park Way to Hill Valley Rd	2-Ln Undivided	10,000	2-Lane Local Collector	10,000

(Continued on Next Page)

TABLE 10–1
GENERAL PLAN STREET SEGMENT CLASSIFICATIONS

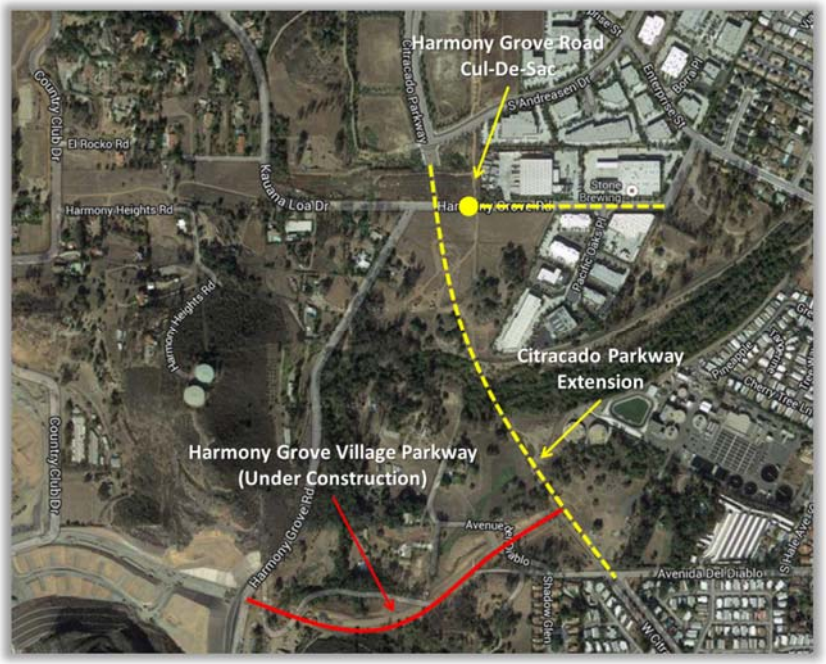
Street Segments	Currently Built As		Adopted *General Plan* Classification [a]	
	Roadway Type	Capacity	Roadway Type	Capacity
(Continued from Previous Page)				
County of San Diego				
Country Club Drive				
7. Hill Valley Rd to Kauana Loa Dr	2-Ln Undivided	9,700	Unclassified [c]	9,700
8. Kauana Loa Dr to Harmony Grove Village Pkwy	2-Ln Undivided	9,700	Unclassified [d]	9,700
9. Harmony Grove Village Pkwy to Harmony Grove Rd	2-Ln Undivided	19,000	Unclassified [d]	19,000
Harmony Grove Road				
10. Wilgen Dr to Country Club Dr	2-Ln Undivided	19,000	2.2C Light Collector [e]	19,000
11. Country Club Dr to Harmony Grove Village Pkwy	2-Ln Undivided	16,200	2.2B Light Collector	19,000
12. Harmony Grove Village Pkwy to Kauana Loa Dr	2-Ln Undivided	16,200	2.2B Light Collector	19,000
13. Kauana Loa Dr to Enterprise St	2-Ln Undivided	9,700	Unclassified [f]	9,700
Harmony Grove Village Parkway				
14. Harmony Grove Rd to Citracado Parkway	2-Ln Undivided	16,200	2.1C Community Collector	19,000

Footnotes:

a. Classifications based on City of Escondido and County of San Diego *General Plan Mobility Elements*.
b. From Auto Park Way to the I-15 Southbound Ramps, W. Valley Parkway is currently built as an eight-lane divided roadway with an existing LOS E capacity of 70,000 ADT, exceeding is *Mobility Element* classification. The existing eight-lane capacity was used in the buildout assessment.
c. Although Country Club Drive is not a Mobility Element roadway, due to the increased paved width and 45 mph speed limit and reduced shoulder, the roadway functions as a 2.2F Light Collector with an LOS "E" capacity of 9,700 ADT.
d. Country Club Drive from Kauana Loa Drive to the northerly boundary of Harmony Grove Village is currently being improved to modified Rural Light Collector standards per the previously adopted General Plan (corresponding with a 2.2F Light Collector on the currently adopted General Plan) with an ADT capacity of 9,700. South of the Harmony Grove Village Project boundary to Harmony Grove Village Parkway, Country Club Drive is being improved to Rural Collector standards per the previously adopted General Plan (corresponding with 2.2E Light Collector on the currently adopted General Plan) with an ADT capacity of 16,200. For purposes of being conservative, the 9,700 ADT capacity was used in the buildout assessment.
e. Harmony Grove Road from Wilgen Drive to Country Club Drive is classified on the County of San Diego Mobility Element as a 2.2E Light Collector with an LOS E capacity of 16,200 ADT. However, the Harmony Grove Village project is currently improving the roadway to 2.2C Light Collector standards with an ADT capacity of 19,000. The 19,000 ADT capacity was used in the buildout assessment.
f. Harmony Grove Road from Kauana Loa Drive to Enterprise Street is currently built as a two-lane roadway with curb, gutter and sidewalk improvements for the majority of the roadway with a posted speed limit of 40 mph. The roadway is located in both the County and City's jurisdiction; however, the majority of the roadway abuts the County line. Therefore, an LOS E capacity of 9,700 ADT was used in the buildout assessment.

10.1.1 *Citracado Parkway Extension*

The Citracado Parkway Specific Alignment Plan and Final EIR was approved by the Escondido City Council in April 2012. The project will construct the connection of Citracado Parkway to Harmony Grove Road/ Kauana Loa Drive and create a "T" intersection with Harmony Grove Road, eliminating the east leg of the intersection. Traffic will be diverted from eastbound Harmony Grove Road to northbound Citracado Road to Andreasen Drive. Per City of Escondido staff, engineering drawings have been drafted and the project will be constructed once funding is identified. Therefore, this improvement was assumed to be completed in the buildout condition. This assumption is consistent with the future network used in the Certified Final EIR for the Harmony Grove Village project.



10.2 Traffic Volumes

In order to forecast traffic volumes for the buildout condition (with adopted *General Plan* land uses), the SANDAG Series 12 Year 2050 County Calibrated and the adopted Escondido *General Plan* SANDAG Series 11 North County Year 2030 traffic models were reviewed. These traffic models include *General Plan* roadway conditions and land uses from each jurisdiction. In addition, all cumulative projects listed in *Section 8.1* of this report were assumed to be at full buildout by this timeframe. Similar to the Existing + Cumulative Projects condition, it would be expected that vehicular traffic may decrease at certain study area locations due to the changes in the circulation network expected with the buildout of *General Plan* roadways and freeway improvements in the vicinity of the Project.

This is particularly evident on Country Club Drive where traffic volumes are shown to be reduced substantially compared to existing conditions. Based on professional engineering judgment and coordination with County of San Diego staff, the traffic volumes generated by the *General Plan* model do not appear to be accurate within this area. A review of the SANDAG Series 12 Year 2035 traffic model, which includes all *General Plan* land uses, including the Harmony Grove Village project, was conducted to determine if this model more accurately forecasts the future volumes on Country Club Drive. Based on a review of said model with confirmation from County staff, the SANDAG Series 12 Year 2035 traffic volumes were deemed more appropriate for use in the analysis of Country Club Drive. For example, Country Club Drive from Hill Valley Road to Kauana

Loa Drive shows 2,200 ADT in the Series 12 Year 2050 County Calibrated model when the volume today is 5,980 ADT. The Series 12 Year 2035 volume more accurately shows an increase in ADT over existing conditions with a forecasted volume of 7,500 ADT.

10.2.1 *Citracado Parkway Extension*

As mentioned, the Citracado Parkway Extension project will connect the current terminus of Citracado Parkway at Andreasen Drive to Avenida Del Diablo/Harmony Grove Village Parkway. With this connection, a cul-de-sac is proposed on Harmony Grove Road, just east of its intersection with the new connection. The County Calibrated and Escondido *General Plan* traffic models assume this connection. With the closure of this connection and extension of Citracado Parkway as reflected in the model, traffic volumes are shown to reroute to Citracado Parkway from Harmony Grove Road and Valley Parkway resulting in a decrease in buildout traffic volumes within the study area.

10.3 Trip Generation Comparison

As mentioned in *Section 2.0* of this report, the Project proposes a GPA for the Project site. The current *General Plan* designation is SR-0.5, and the Regional Category is Semi-Rural. Under the current *General Plan*, a maximum of 222 DU would be permitted (at a minimum of 0.5 acre lot sizes). Applying the SANDAG rate for the single-family residential land use, approximately 2,220 ADT would be generated by the existing zoning.

The Project is requesting a *General Plan* Amendment (GPA) to allow for a maximum development of 450 DU. Applying the single-family residential land use rate to 450 DU, approximately 4,500 ADT would be generated by the Project site, a net increase of 2,280 ADT.

An analysis of the site redevelopment was conducted to evaluate the buildout operations at fourteen (14) off-site street segment locations surrounding the Project area. A review of the SANDAG traffic models confirms the traffic volumes generated by the Project site reflect the adopted *General Plan* zoning. In order to evaluate the Project-related changes to the street system with the GPA, the net increase of 2,280 ADT was distributed to the street to represent the "With Project" conditions. Therefore, Buildout Without Project traffic volumes represent traffic generated by the adopted *General Plan* land uses for the Project site and the Buildout With Project traffic volumes represent the net increase in traffic with the GPA.

Table 10–2 shows the trip generation comparison for the each scenario.

Figure 10–1 depicts the Buildout Without Project traffic volumes and ***Figure 10–2*** depicts the Buildout With Project traffic volumes provided at the end of this section.

TABLE 10–2
BUILDOUT TRIP GENERATION COMPARISON

Land Use	Quantity	ADT [a]	
		Rate [b]	Volume
Without Project: Adopted *General Plan* Land Use			
Single Family Residential (SR-0.5 and A70 – 1 DU/0.5 acre)	222 DU	10 /DU	2,220
With Project: Proposed *General Plan* Amendment Land Use			
Single Family Residential (Approximately 4 DU/acre))	450 DU	10 /DU	4,500
Net Increase with Proposed *General Plan* Amendment Land Use	**228 DU**		**2,280**

Footnotes:

a. ADT = Average Daily Traffic, rounded up to the nearest tenth.
b. *(Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* dated April 2002.

10.4 Buildout Without Project Land Use Analysis

10.4.1 *Daily Street Segment Operations*

Table 10–3 summarizes the Buildout Without Project (with adopted *General Plan* land use) roadway segment LOS. As seen in *Table 10–3*, all street segments are calculated to operate at acceptable levels of service except for the segment of Country Club Drive between Auto Park Way and Hill Valley Drive, within the City of Escondido, which is forecasted to operate at LOS D.

10.5 Buildout With Proposed Project Land Use Analysis

10.5.1 *Daily Street Segment Operations*

Table 10–3 also summarizes the Buildout With Project (with proposed Project land use) roadway segment LOS. As seen in *Table 10–3*, all street segments are calculated to continue to operate at acceptable levels of service except for the segment along Country Club Drive between Auto Park Way and Hill Valley Drive which is forecasted to continue to operate at LOS D.

Based on the analysis of Country Club Drive from Auto Park Way to Hill Valley Drive, this portion of the roadway is anticipated to operate at an unacceptable level of service both with and without the proposed Project land use. It can therefore be concluded that the Project alone would not result in poor operations along this roadway under buildout conditions.

TABLE 10–3
BUILDOUT STREET SEGMENT OPERATIONS

City of Escondido Street Segments	General Plan Capacity (LOS E) [a]	Buildout Without Project (*General Plan* Land Use)			Buildout With Project (Proposed Project Land Use)		
		ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C
Auto Park Way							
1. Mission Rd to Country Club Dr	50,000	31,600	C	0.632	32,216	C	0.644
Citracado Parkway							
2. Avenida Del Diablo to Valley Pkwy	37,000	24,900	C	0.673	25,812	C	0.698
Valley Parkway							
3. 11th Ave to Citracado Pkwy	37,000	18,800	B	0.508	19,324	B	0.522
4. Auto Park Way to I-15 SB Ramps	70,000 [e]	50,000	C	0.714	50,524	C	0.722
9th Avenue							
5. Valley Pkwy to Auto Park Way	34,200	10,800	A	0.316	10,937	A	0.320
Country Club Drive							
6. Auto Park Way to Hill Valley Dr	10,000	7,500	D	0.750	8,070	D	0.807

County of San Diego Street Segments	General Plan Capacity (LOS E) [a]	Buildout Without Project (*General Plan* Land Use)		Buildout With Project (Proposed Project Land Use)	
		ADT	LOS	ADT	LOS
Country Club Drive					
7. Hill Valley Dr to Kauana Loa Dr	9,700	6,300	B	6,870	C
8. Kauana Loa Dr to Harmony Grove Village Pkwy	9,700	3,600	A	4,102	A
9. Harmony Gr. Vill. Pkwy to Harmony Grove Rd	19,000	3,900	B	4,402	B
Harmony Grove Rd					
10. Wilgen Drive to Country Club Drive	16,200	8,000	C	8,182	C
11. Country Club Drive to Harmony Gr. Vill. Pkwy	19,000	9,900	D	11,496	D
12. Harmony Grove Village Pkwy to Kauana Loa Dr	19,000	9,100	C	9,784	D
13. Kauana Loa Dr to Enterprise St	9,700	5,500	A	5,500	A
Harmony Grove Village Parkway					
14. Harmony Grove Rd to Citracado Pkwy	19,000	9,200	C	10,112	D

Footnotes:

a. Capacities based on City of Escondido and County of San Diego Roadway Classification Tables. See *Table 10–1* for explanation on *General Plan* roadway classifications.
b. ADT – Average Daily Traffic Volumes, rounded to the nearest hundredth.
c. LOS – Level of Service.
d. V/C – Volume to Capacity ratio.
e. From Auto Park Way to the I-15 Southbound Ramps, W. Valley Parkway is currently built as an eight-lane divided roadway with an existing LOS E capacity of 70,000 ADT, exceeding is *Mobility Element* classification. The existing eight-lane capacity was used in the buildout assessment.

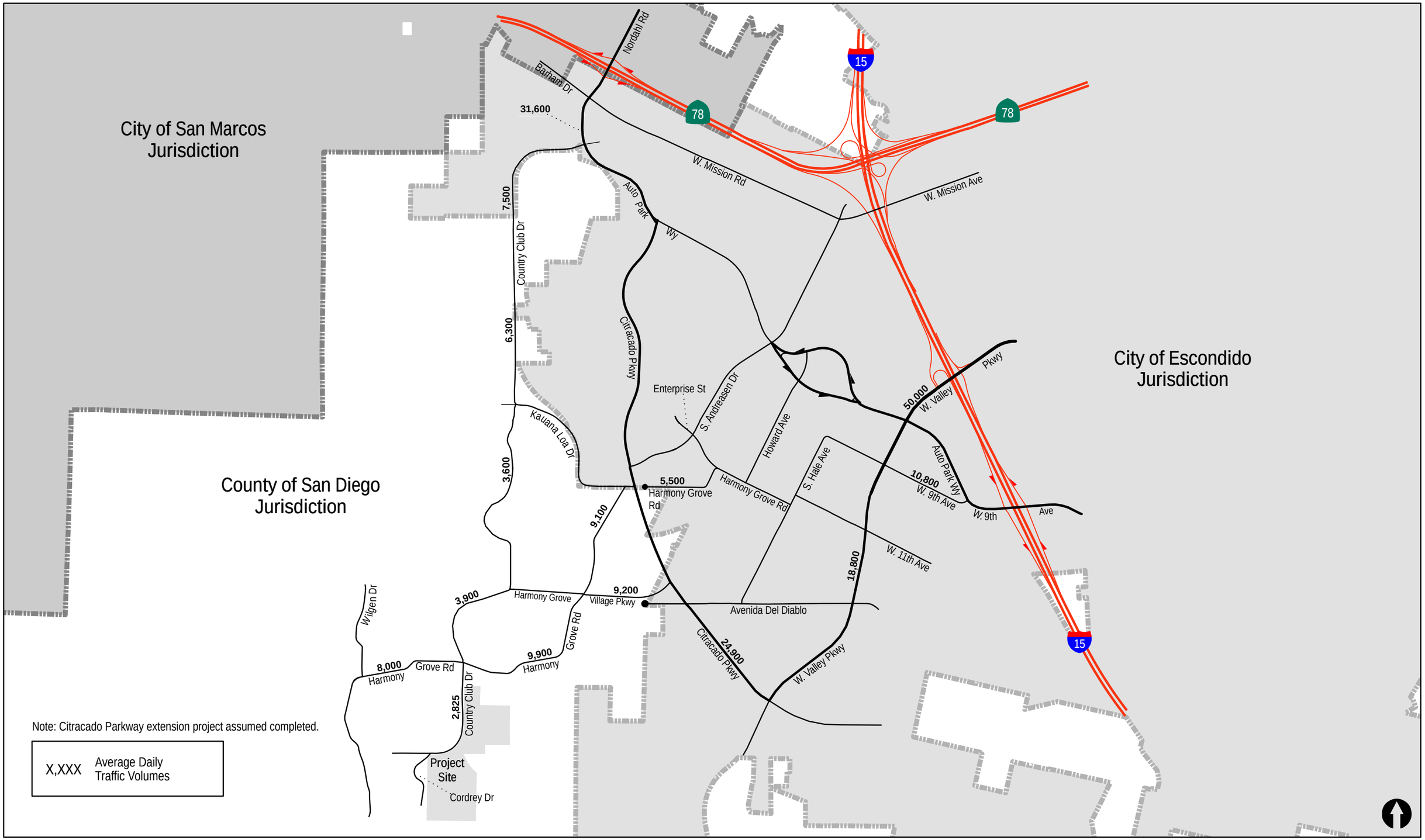


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Figure 10-1

Buildout Without Project Traffic Volumes

HARMONY GROVE PARCEL

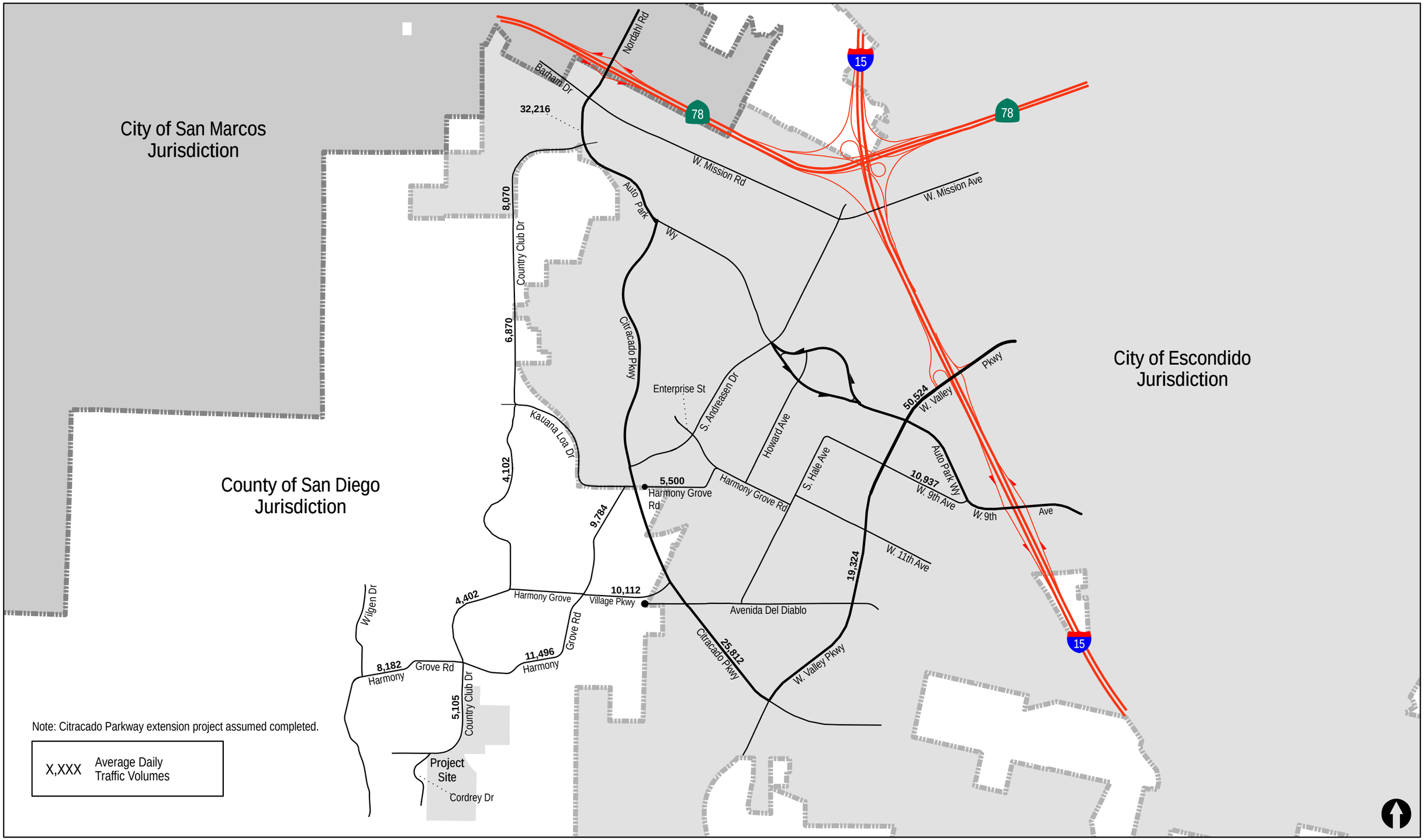

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Figure 10-2

Buildout With Project Traffic Volumes

HARMONY GROVE PARCEL

11.0 ACCESS AND OTHER ISSUES

This section has been provided to discuss the improvements to Country Club Drive along the Project frontage.

11.1 Access Road Discussion

11.1.1 *Country Club Drive Street Segment*

Project access is proposed via Country Club Drive south of Harmony Grove Road. This roadway is an unclassified substandard Rural Residential Road. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic.

Country Club Drive from Harmony Grove Road to Cordrey Drive is currently constructed with a paved width of 20 feet providing two 10-foot lanes in each direction. The roadway is undivided and does not provide a paved shoulder. Country Club Drive terminates just west of Cordrey Drive at Hillside Road. It currently serves as an access road to Harmony Grove Road for rural residential properties within the immediate vicinity.

The Project will increase the existing 605 ADT to 5,105 ADT. As part of the Project, the roadway is proposed to be improved to a "Public Enhanced Residential Collector". This will include a three-foot parkway on the west side of the road, a ten-foot parkway on the east side, two eight-foot shoulders, two twelve-foot travel lanes and a 14-center turn lane/striped median. A five-foot landscaped area and a five-foot pathway are proposed on the east side of the road within the ten-foot parkway. Three approach lanes at the Country Club Drive/ Harmony Grove Road intersection are also proposed: a left-turn lane, thru lane, and dedicated right-turn lane. The left-turn and right-turn lanes will provide 100 feet of storage. The paved width will be 54 feet in a dedicated right-of-way of 67 feet. This configuration is similar to a "Community Collector With Continuous Left Turn Lane (2.1B), which is identified as having an "LOS E" threshold at 19,000 ADT. The circulation improvements encourage pedestrian and bicycle activity, which can reduce the number of vehicles on the roadway. In addition, a ten-foot multi-use trail on the west side will ultimately be constructed by the adjacent property owner.

Since the Project adds 4,500 ADT in addition to existing volumes, this street segment would be calculated to operate at LOS B. Southbound left-turning movements from Country Club Drive to the Project driveways will utilize the proposed two-way center turn lane. This center turn lane would allow for left-turning vehicles to queue outside the flow of thru traffic, thus allowing left-turning vehicles to be passed by thru vehicles without significantly slowing thru traffic and effectively increasing the capacity of Country Club Drive.

Figures 11–1 and ***11–2*** depict the conceptual roadway improvements to Country Club Drive, both on the north end and south end of the roadway.

It should be noted that a design speed exception is requested for a portion of Country Club Drive adjacent to Cordrey Lane. The request is for a reduced design speed on Country Club Drive from 30 MPH to 27.5 MPH at the existing crest vertical curve near the intersection of Cordrey Lane. A

copy of the design exception request is included in ***Appendix J***. This request will not affect the roadway's ability to serve the approximately 600 ADT that will utilize that section of Country Club Drive.

11.1.2 *Country Club Drive/ Harmony Grove Road Intersection*

As part of the Harmony Grove Village project, the intersection of Country Club Drive at Harmony Grove Road is being improved to provide a traffic signal with north/south "split" phasing and east/west "protected" left-turn phasing. Crosswalks and pedestrian and equestrian-level push buttons are proposed for this intersection. Dedicated left-turn lanes in the eastbound, westbound and southbound directions will be provided. In addition, a westbound dedicated right-turn lane is being provided with an overlap phase. No Harmony Grove Village-related improvements are planned for the south leg of the intersection of which the Project access is proposed. As part of the Project, the northbound approach will be widened at this intersection to provide three approach lanes.

A bridge crossing the Escondido Creek, a protected riparian area, is located 140 feet south of Harmony Grove Road on Country Club Drive. Due to the close proximity of this environmentally sensitive area to the northbound approach, there is limited right-of-way to improve this leg of the intersection. Approximately 50 feet of right-of-way is available north and south of the riparian crossing. The existing northbound approach provides for a 10-foot lane in the northbound and southbound directions with a flared opening at Harmony Grove Road. It is recommended that the approach be widened just north of the bridge crossing to provide a 14-foot southbound receiving lane, one 11-foot northbound left-turn lane, one 12-foot through-lane, and one 12-foot dedicated northbound right-turn lane.

The split traffic signal phasing for north/south traffic proposed with the Harmony Grove Village improvements is an inefficient signal phasing profile, but likely proposed due to the vertical curve approaching Harmony Grove Road from northbound Country Club Drive, as well as the current centerline offset between the north and south legs of the intersection. The Harmony Grove Village project network improvements along with the proposed Project improvements to the south leg (widening and realignment) improve intersection operations from LOS F to LOS D (PM peak hour). ***Table 11–1*** shows the changes in LOS with the improvements.

TABLE 11–1
COUNTRY CLUB DRIVE/ HARMONY GROVE ROAD
SIGNALIZED INTERSECTION OPERATIONS

Intersection	Traffic Control	Scenario	Peak Hour			
			AM		PM	
			Delay [a]	LOS [b]	Delay	LOS
17. Country Club Dr/ Harmony Grove Rd	Signal	Existing + Near-Term Cumulative Projects + Project *(Harmony Grove Village Improvements Only)*	43.1	D	>100.0	F
		Existing + Near-Term Cumulative Projects + Project *(With Additional Proposed Project Improvements)*	40.3	D	48.5	D

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.

Figure 11–1 shows the conceptual intersection improvements at Country Club Drive and Harmony Grove Road.

Appendix K contains the post-improvement intersection analysis worksheets.

11.2 Project Access

As mentioned above, the Project will take access from Country Club Drive via two (2) new access roads. The Project proposes to construct a two-way center turn lane providing for left-turns at each of the two (2) access locations along Country Club Drive. As mentioned above in *Section 11.1.1*, this center turn lane would allow for left-turning vehicles to queue outside the flow of thru traffic, thus allowing left-turning vehicles to be passed by thru vehicles without significantly slowing thru traffic and effectively increasing the capacity of Country Club Drive.

11.3 Sight Distance

The two (2) Project entry/exit points are located on either side of a curve on Country Club Drive along the project frontage. In accordance with County Private and Public Road Standards, a review of the corner and stopping sight distance for these locations shall be conducted, and the Project would meet the County's Road Standards for sight distance to ensure that adequate sight distance is met.

11.4 On-site Circulation

As shown in *Figure 2–1* provided earlier in this report, there are several internal roadways proposed within the site. These roadways are all proposed to be constructed to County private-road standards, with paved widths varying from 24-feet to 36-feet within the property. They would be painted with sharrows to indicate to motorists that bicyclists share these roadways with vehicular traffic. A comprehensive system of pedestrian trails would also be provided along these private roadways. Circulation would be provided via an internal loop road comprised of Private Drives "A", "B" and "C". Seven (7) cul-de-sac roads will branch off of this internal loop. The construction of on-site roadways to County standards would facilitate adequate on-site circulation within the Project site. Proposed speed limits within the Project are 25 mph.

The broader internal circulation system is designed to enhance connectivity among the northern, central and southern portions of the site (see *Figure 2–1*). This design is consistent with modern planning principles that seek to minimize cul-de-sac networks, and instead provide physical connections that support vehicular, pedestrian and bicycle circulation. This minimizes undesirable out-of-direction vehicular travel which adds to vehicle miles traveled and greenhouse gas emissions. It also serves to encourage pedestrian and bicycle trips throughout the community.

11.5 Equestrian Crossing

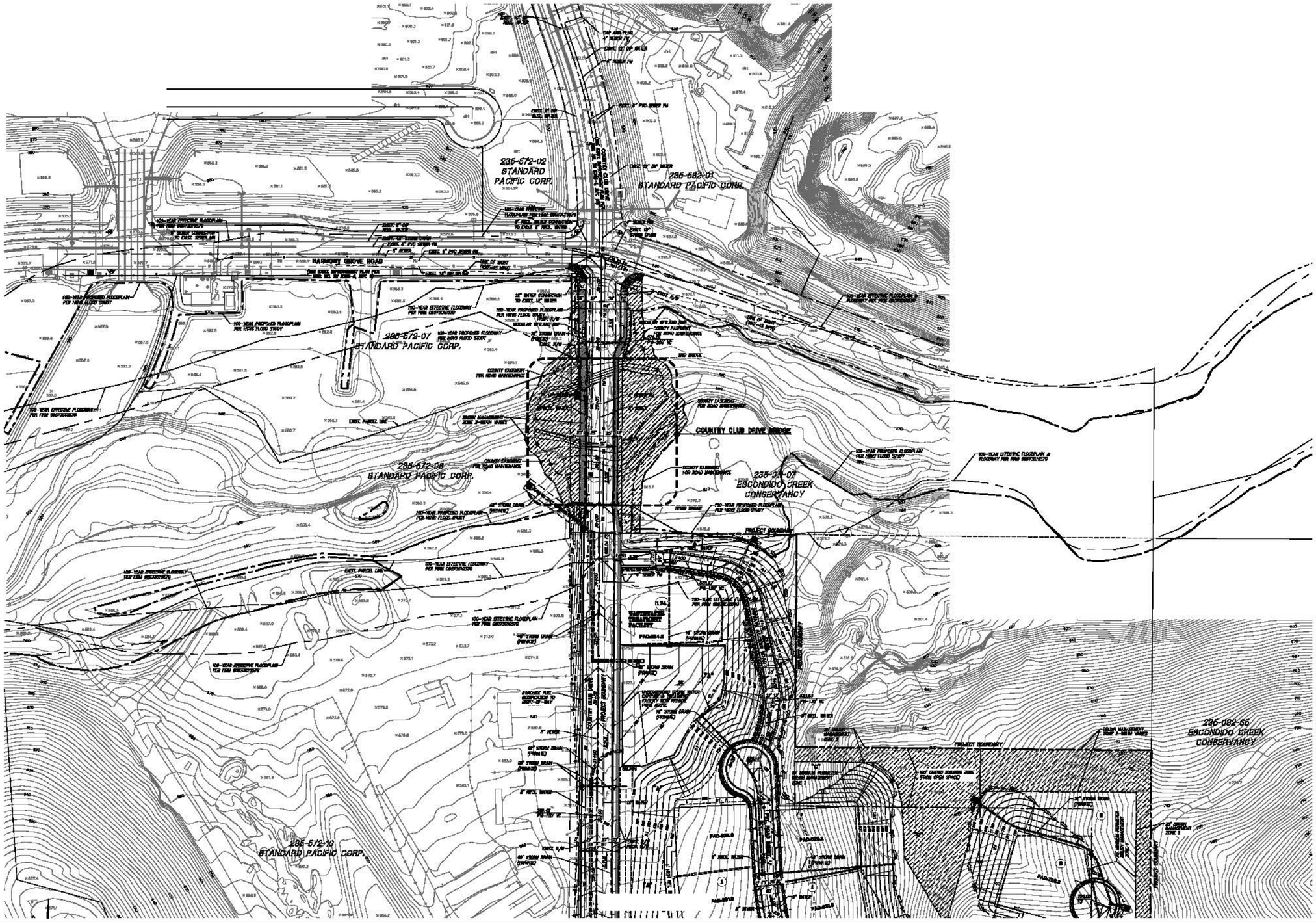
Equestrian riders may need to cross on- and off-site roadways at times. The following is a brief discussion of the implications of the equestrian crossing for each intersection control type.

Unsignalized Intersections: Pedestrian and equestrian crossings at unsignalized intersections are legal at all intersections, whether marked or unmarked. Road users (drivers, pedestrians and equestrian riders) should exercise caution when approaching or crossing unmarked intersections. On-site roads will have lower posted speeds than Country Club Drive and Harmony Grove Road and present fewer hazards for pedestrian and equestrian crossings.

Signalized Intersections: Equestrians rider's access at signalized intersections is controlled and thus provides a better alternative as compared to unsignalized intersections. This is because traffic will stop at a signalized intersection when the equestrian riders get a green signal, whereas the traffic at an unsignalized intersection may not stop.

11.6 Construction Traffic Impacts

The Project will be constructed in phases, and each phase will consist of sub-phases, none of which would generate more traffic than the 4,500 ADT the Project will generate when constructed. As such, no capacity impacts are anticipated to occur during any construction phase. All appropriate work zone traffic control plans shall be prepared to ensure efficient ingress/egress of trucks and equipment, and to maintain access to the degree possible to Country Club Drive during construction.



LINSCOTT LAW & GREENSPAN engineers

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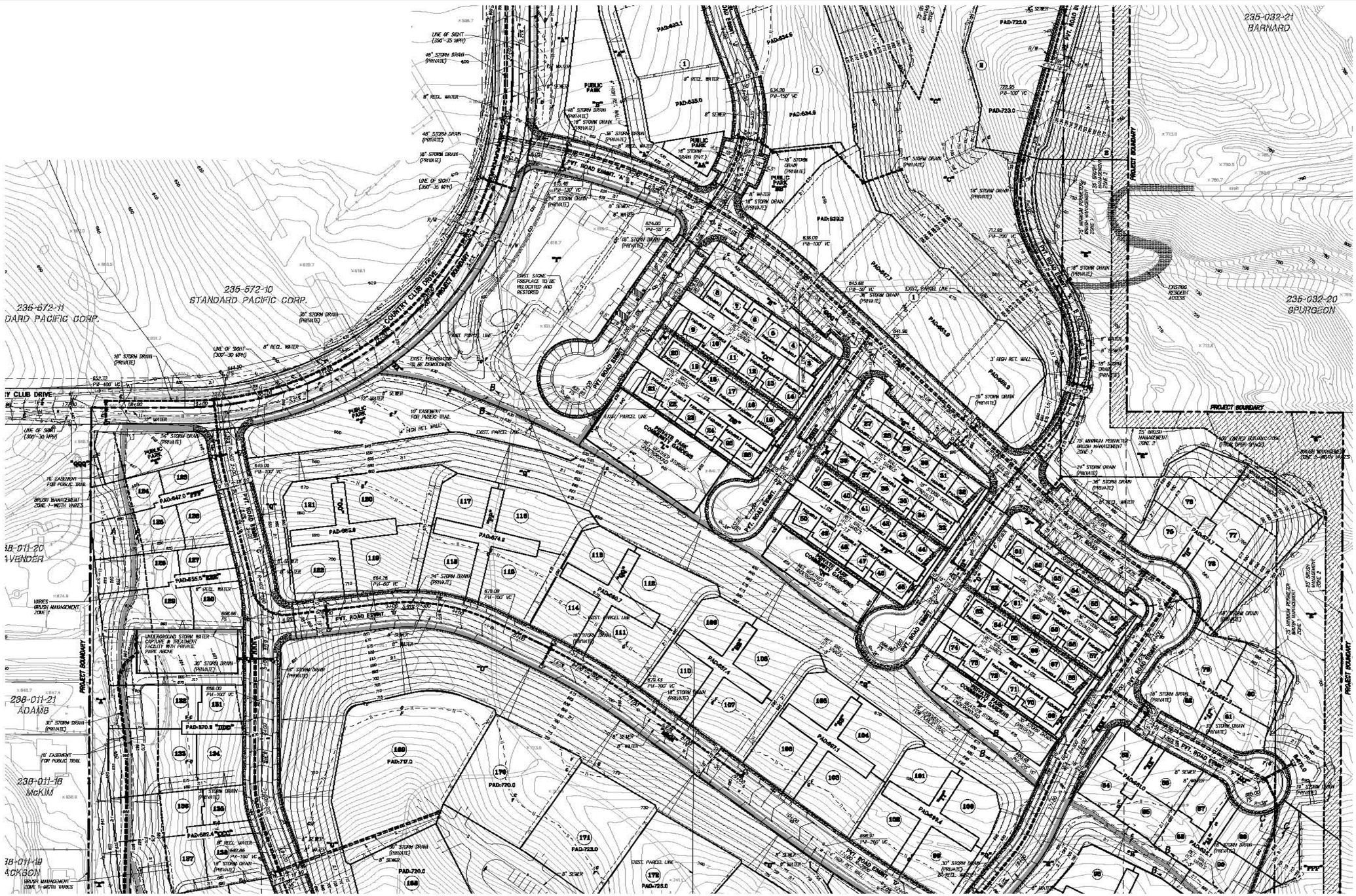
Figure 11-1

Conceptual Improvements - Country Club Drive North

HARMONY GROVE PARCEL



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LINSCOTT LAW & GREENSPAN engineers

Figure 11-2

Conceptual Improvements - Country Club Drive South

HARMONY GROVE PARCEL

12.0 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Per the City of Escondido, and County of San Diego's significance thresholds and the analysis methodologies presented in this report, Project-related and cumulative traffic are calculated to cause significant impacts within the study area under the direct and cumulative conditions.

The trigger point at which a Project's impact becomes significant is identified in two steps. First, identify the allowable increase in delay (intersections) or volume-to-capacity (street segments). This is typically the point where the LOS deteriorates to an unacceptable level, or, for locations operating at unacceptable levels without the project, the increase allowed by the jurisdiction at such locations. The second step is to ascertain to the proportion of project traffic that can be added before crossing this threshold. For street segments this is a straightforward calculation of the allowable increase divided by the total project traffic on a particular segment. As intersection delay does not increase in a linear fashion with increased traffic, a trial-and-error process is used to determine the proportion of project traffic corresponding to the threshold.

The City of Escondido requires that physical improvements be implemented for direct impacts where a project reduces LOS below acceptable LOS C thresholds. A fair share payment toward future improvements is required where the addition of project traffic is cumulative to the overall LOS D or worse pre-project conditions.

The County of San Diego requires that projects that significantly increase congestion on roads operating at LOS E or LOS F must provide mitigation. The County Board of Supervisors adopted a Transportation Impact Fee (TIF) ordinance, which provides a mechanism for the County to obtain funding to mitigate anticipated cumulative transportation/circulation impacts, by requiring payment of an impact fee designated in the ordinance. The County updated the TIF Program in December 2012. The TIF Program identifies transportation facilities needed to address cumulative impacts within designate areas of the County (TIF Areas) and then provides for payment of fees to cover a project's "fair share" of the cost. TIF fees are segregated by TIF Area, Region, State Highway, and Ramps and are used to help fund transportation improvements within those identified locations. The Project is located within the San Dieguito TIF Area. The Project should pay the appropriate TIF for cumulatively significant impacted locations.

Mitigation to lower identified significant impacts to less-than-significant levels has been identified for the seven (7) impacts within County jurisdiction and the three (3) impacts within City of Escondido jurisdiction. These identified measures will result in less-than-significant impacts for identified direct and cumulative Project-related effects upon implementation, and will become Conditions of the Project, as appropriate. Because the City of Escondido is a lead agency under CEQA for impacts within their jurisdiction, however; it is the City, and not the County, that has responsibility for approval/assurance of implementation of those improvements. As such, the County cannot guarantee ultimate implementation or timing of City-approved mitigation. Thus, for the purposes of this document, impacts within the City of Escondido are identified as remaining significant and unavoidable pending City action.

The following section lists the significant impacts and provides recommendations for mitigation measures to address operating deficiencies.

12.1 Intersections

12.1.1 *Significant Impacts Prior to Mitigation*

Based on the applied significance criteria, the following impacts were calculated at study area intersections:

City of Escondido

TRA-1. Intersection #4. Auto Park Way/ Country Club Drive *(Cumulative Only)*

TRA-2. Intersection #12. Valley Parkway/ Citracado Parkway *(Cumulative Only)*

County of San Diego

TRA-3. Intersection #18. Harmony Grove Road/ Kauana Loa Drive *(Cumulative Only)*

TRA-4. Intersection #17. County Club Drive/ Harmony Grove Road *(Direct & Cumulative)*

12.1.2 *Mitigation Measures and Design Considerations*

City of Escondido

TRA-1. **Intersection #4. Auto Park Way/ Country Club Drive** – Prior to issuance of a building permit for the 293rd dwelling unit, the Project applicant, or its designee, shall restripe the eastbound approach at this intersection to provide one left-turn lane, one shared left-turn/through lane, and one right-turn lane with a signal timing modification to change the east/west approach to "split" phasing. While this improvement would reduce the cumulative impact to less than significant, the County is without jurisdiction to ensure the construction of the additional improvements. Therefore the impact is considered significant and unmitigable to this City of Escondido intersection.

TRA-2. **Intersection #12. Valley Parkway/ Citracado Parkway** – Prior to issuance of a building permit for the 54th dwelling unit, the Project applicant, or its designee should pay a fair share toward the approved Citracado Parkway Extension Project, which would improve the intersection operations with an additional thru lane in the southbound direction. Alternately, the provision of an eastbound to southbound right-turn overlap phase would improve the AM LOS and reduce the cumulative impacts. However, the City has a right turn restriction for this movement during the AM peak hour, which makes this improvement infeasible. The aforementioned fair share payment towards the Citracado Parkway Extension Project would also reduce the cumulative impact to less than significant. However, the County is without jurisdiction to ensure the construction of the additional improvements, and the City of Escondido has no enforceable program into which the applicant can pay its fair share that would implement the improvements. These are thus concluded to be infeasible mitigation measures, and the impact is considered significant and unmitigable to this City of Escondido intersection.

County of San Diego

TRA-3. **Intersection #18. Harmony Grove Road/ Kauana Loa Drive –** This intersection lies on a segment identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. The Project should make a payment toward the County of San Diego TIF Program. Implementation of this mitigation measure would be expected to reduce this cumulative impact to less than significant.

TRA-4. **Intersection #17. Country Club Drive/ Harmony Grove Road –** Prior to issuance of a building permit for the 23rd dwelling unit, the Project applicant, or its designee shall widen the northbound approach to provide one (1) left-turn, one (1) thru lane and one (1) dedicated right-turn lane with an overlap phase. In addition, the Project should make a payment toward the County of San Diego TIF Program. Implementation of this mitigation measure would be expected to reduce this cumulative impact to less than significant.

12.2 Roadway Segments

12.2.1 *Significant Impacts Prior to Mitigation*

Based on the applied significance criteria, the following impacts were calculated on study area roadway segments:

City of Escondido

TRA-5. Segment #6. Country Club Drive between Auto Park Way and Hill Valley Drive *(Direct & Cumulative)*

County of San Diego

TRA-6. Segment #7. Country Club Drive: Hill Valley Drive to Kauana Loa Drive *(Cumulative Only)*

TRA-7. Segment #11. Harmony Grove Road: Country Club Drive to Harmony Grove Village Parkway *(Cumulative Only)*

TRA-8. Segment #12. Harmony Grove Road: Harmony Grove Village Parkway to Kauana Loa Drive *(Cumulative Only)*

TRA-9. Segment #13. Harmony Grove Road: Kauana Loa Drive to Enterprise Street *(Cumulative Only)*

TRA-10. Segment #14. Harmony Grove Village Parkway: Harmony Grove Road to Citracado Parkway *(Cumulative Only)*

12.2.2 *Mitigation Measures and Design Considerations*

City of Escondido

TRA-5. **Segment #6: Country Club Drive between Auto Park Way and Hill Valley Drive –** Prior to issuance of a building permit for the 80th dwelling unit, the Project applicant, or its designee should widen Country Club Drive to provide a paved width of 36 feet consisting of two travel lanes and a 10-foot striped center turn lane starting

220 feet southwest of Auto Park Way for a length of approximately 830 feet. Improvements would include connecting the existing sidewalk along the northern side of this roadway section with a five-foot sidewalk complete with a six inch curb and gutter and providing a four-foot decomposed granite pathway along the south side of this segment with a six inch asphalt berm. With the additional 12 feet added to the paved width, the roadway capacity of this Local Collector would increase to 15,000 ADT. While this improvement would reduce the cumulative impact to less than significant, the County is without jurisdiction to ensure the construction of the additional improvements. Therefore the impact is considered significant and unmitigable to this City of Escondido roadway.

County of San Diego

TRA-6. **Segment #7. Country Club Drive: Hill Valley Drive to Kauana Loa Drive** – Prior to issuance of a building permit for the 176th dwelling unit, the Project applicant, or its designee shall widen Country Club Drive at the Country Club Drive/ Eden Valley Lane intersection to provide a dedicated northbound left-turn lane onto Eden Valley Lane. The provision of this left-turn lane would provide a refuge lane for left-turning vehicles thus improving the flow of northbound through traffic and reducing the potential for vehicular conflict due to the slowing of northbound traffic. Implementation of this mitigation measure would be expected to reduce this cumulative impact to less than significant. .

TRA-7. **Segment #11. Harmony Grove Road: Country Club Drive to Harmony Grove Village Parkway** – This segment is identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. The Project should make a payment toward the County of San Diego TIF Program. Implementation of this mitigation measure would be expected to reduce this cumulative impact to less than significant.

TRA-8. **Segment #12. Harmony Grove Road: Harmony Grove Village Parkway to Kauana Loa Drive** – This segment is identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. The Project should make a payment toward the County of San Diego TIF Program. Implementation of this mitigation measure would be expected to reduce this cumulative impact to less than significant.

TRA-9. **Segment #13. Harmony Grove Road: Kauana Loa Drive to Enterprise Street** – Harmony Grove Road between Kauana Loa Drive and Enterprise Street is not a part of the General Plan roadway network and is an unclassified roadway on the Mobility Element. Therefore, it does not have any planned improvements beyond its existing configuration. However, the construction of the Citracado Parkway Extension Project within the City of Escondido would ultimately cul-de-sac Harmony Grove Road just east of Kauana Loa Drive, resulting in the reduction of the volume along this roadway and improve operations to acceptable LOS D or better. The completion of the Citracado Parkway Extension Project, would result in a substantial shift in traffic patterns as studied extensively in the Citracado Parkway Final EIR, approved February 2012 and in the City's certified General Plan Update EIR. However, the

City has no present plans to construct the Citracado Parkway Extension Project nor does the City have a financing plan to fund this improvement into which the applicant can pay its fair share. Also, the County is without jurisdiction to ensure the construction of the Citracado Parkway Extension Project and has no plans to make any improvements beyond its current configuration.

The segment is bound by two intersections: #18 Harmony Grove Road/ Kauana Loa Drive (County) and #5 Harmony Grove Road/ Enterprise Street (City). The former also lies upon the portion of Harmony Grove Road that is classified as a TIF-eligible facility. Therefore, the Project's TIF payment mitigates the shared intersection, which improves operations on all adjacent legs, both TIF and Non-TIF eligible. As such, cumulative improvements from TRA-3 will apply to this impact, TRA-9, and implementation of mitigation measure TRA-3 would be expected to reduce this cumulative impact to less than significant.

TRA-10. **Segment #14. Harmony Grove Village Parkway: Harmony Grove Road to Citracado Parkway** – This segment of Harmony Grove Village Parkway is currently built to 2.1E Community Collector standards providing 16,200 ADT of capacity and is classified on the Mobility Element to be improved to 2.2C Community Collector standards providing 19,000 ADT of capacity. However, this section of Harmony Grove Village Parkway is not currently included in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012, identifying it as a TIF-eligible facility.

The segment is bound by two intersections: #19 Harmony Grove Road/ Harmony Grove Village Parkway (County) and #6 Avenida Del Diablo/ Citracado Parkway (City). Both of these intersections are calculated to operate at LOS C or better during both peak hours with both Project and cumulative project traffic volumes, and as such, the subject roadway segment would also be expected to operate at correspondingly acceptable LOS. Nonetheless, the cumulative contribution exceeds the Count's published threshold and a cumulative impact is reported.

Prior to issuance of a building permit for the 135th dwelling unit, the Project applicant, or its designee shall provide a northbound to eastbound right-turn overlap phase at the Harmony Grove Road/ Harmony Grove Village Parkway signalized intersection (#19). Even though this intersection is calculated to operate at LOS C or better during the peak hours with both Project and cumulative project traffic volumes, the construction of the northbound to eastbound right-turn overlap phase at this intersection would provide additional improvements to both AM and PM peak hour delays by 1.3 and 2.1 seconds, respectively. As intersections are considered primary indicators of the overall roadway network operations, this improvement would be considered beneficial to the subject segment, and would be expected to reduce this cumulative impact to less than significant.

12.3 Project Design Features

The following traffic design features are recommended as part of the Project to minimize traffic impacts.

12.3.1 *Country Club Drive*

Improvements to Country Club Drive along the Project frontage are proposed as part of Project design. As discussed in *Section 11.1.1* of this report, improvements to Country Club Drive along the Project frontage are proposed as part of Project design. As discussed in *Section 11.1.1* of this report, Project access is proposed via Country Club Drive south of Harmony Grove Road. The Project will improve the roadway to a "Public Enhanced Residential Collector" to include a three-foot parkway on the west side of the road, a ten-foot parkway on the east side, two eight-foot shoulders, two twelve-foot travel lanes and a 14-center turn lane/striped median. Three approach lanes at the Country Club Drive/ Harmony Grove Road intersection are also proposed: a left-turn lane, thru lane, and dedicated right-turn lane. The left-turn and right-turn lanes will provide 100 feet of storage. The paved width will be 54 feet in a dedicated right-of-way of 67 feet. A design speed exception is requested to reduce the design speed from 30 MPH to 27.5 MPH, which would not affect the segment's capacity to serve the approximately 600 ADT on this segment. A copy of the design exception is included in *Appendix J*.

The Project is designed to accommodate a system of interconnected trails and pathways that encourage pedestrian and bicycle activity and establish important links to Harmony Grove Village, the Del Dios Highlands Preserve, and the Elfin Forest Recreational Reserve. The intersection improvements and proposed changes to Country Club Drive are designed to enhance circulation for pedestrians, bicyclists, and equestrian riders. Crosswalks, clear delineations between vehicular routes and pedestrian/equestrian/bicyclist routes, and pedestrian and equestrian-level push buttons would be provided. Internal private roadways servicing the Project will include pedestrian trails and sharrows to indicate that bicyclists share the roadway with vehicles.

12.4 Impacts and Mitigation Summary Table

Table 12–1 summarizes the significant impacts, corresponding mitigation measures, and post-mitigation analysis.

TABLE 12–1
SUMMARY OF SIGNIFICANT IMPACTS / MITIGATION MEASURES

MM# [1]	Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level?	
				LOS	Yes/No? [2]
Intersections					
TRA-1	Intersection #4. Auto Park Way/ Country Club Drive *(City of Escondido)*	Cumulative	Restripe the eastbound approach at this intersection to provide one left-turn lane, one shared left-turn/through lane, and one right-turn lane with a signal timing modification to change the east/west approach to "split" phasing. However, the Project cannot assure that another jurisdiction will allow the improvement.	C/C	No
TRA-2	Intersection #12. Valley Parkway/ Citracado Parkway *(City of Escondido)*	Cumulative	The Project could pay a fair share toward the approved Citracado Parkway Extension Project to provide an additional thru lane in the southbound direction or provide an eastbound to southbound overlap phase. However, neither measure is feasible.	D	No
TRA-3	Intersection #18. Harmony Grove Road/ Kauana Loa Drive *(County of San Diego)*	Cumulative	This segment is identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. The Project should make a payment toward the County of San Diego TIF Program.	D	Yes
TRA-4	Intersection #17. Country Club Drive/ Harmony Grove Road *(County of San Diego)*	Direct & Cumulative	Widen the northbound approach to provide one (1) left-turn, one (1) thru lane and one (1) dedicated right-turn lane with an overlap phase. In addition, the Project should make a payment toward the County of San Diego TIF Program.	D	Yes

TABLE 12–1
SUMMARY OF SIGNIFICANT IMPACTS / MITIGATION MEASURES

MM# [1]	Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level?	
				LOS	Yes/No? [2]
Segments					
TRA-5	Segment #6: Country Club Drive between Auto Park Way and Hill Valley Drive *(City of Escondido)*	Direct & Cumulative	Country Club Drive should be widened to provide a paved width of 36 feet consisting of two travel lanes and a 10-foot striped center turn lane starting 220 feet southwest of Auto Park Way for a length of approximately 830 feet. Improvements would include connecting the existing sidewalk along the northern side of this roadway section with a five-foot sidewalk complete with a six inch curb and gutter and providing a four-foot decomposed granite pathway along the south side of this segment with a six inch asphalt berm. With the additional 12 feet added to the paved width, the roadway capacity of this Local Collector would increase to 15,000 ADT. However, the Project cannot assure that another jurisdiction will allow the improvement.	C	No
TRA-6	Segment #7. Country Club Drive: Hill Valley Drive to Kauana Loa Drive *(County of San Diego)*	Cumulative	The Project should widen Country Club Drive at the Country Club Drive/ Eden Valley Lane intersection to provide a dedicated northbound left-turn lane onto Eden Valley Lane. The provision of this left-turn lane would provide a refuge lane for left-turning vehicles thus improving the flow of northbound through traffic and reducing the potential for vehicular conflict due to the slowing of northbound traffic.	D	Yes
TRA-7	Segment #11. Harmony Grove Road: Country Club Drive to Harmony Grove Village Parkway *(County of San Diego)*	Cumulative	This segment is identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. The Project should make a payment toward the County of San Diego TIF Program.	D	Yes
TRA-8	Segment #12. Harmony Grove Road: Harmony Grove Village Parkway to Kauana Loa Drive *(County of San Diego)*	Cumulative	This segment is identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. The Project should make a payment toward the County of San Diego TIF Program.	D	Yes

TABLE 12–1
SUMMARY OF SIGNIFICANT IMPACTS / MITIGATION MEASURES

MM# [1]	Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level?	
				LOS	Yes/No? [2]
Segments *(Continued)*					
TRA-9	Segment #13. Harmony Grove Road: Kauana Loa Drive to Enterprise Street *(County of San Diego)*	Cumulative	This segment is not identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. However, this segment is bound on its western terminus by intersection #18 (Harmony Grove Road/ Kauana Loa Drive) which is on the TIF-eligible portion of Harmony Grove and will itself be mitigated with TRA-3. This improves operations on all adjacent legs, both TIF and Non-TIF eligible, and thus cumulative improvements from TRA-3 will apply to this impact, TRA-9, and implementation of mitigation measure TRA-3 would be expected to reduce this cumulative impact to less than significant.	-	Yes
TRA-10	Segment #14. Harmony Grove Village Parkway: Harmony Grove Road to Citracado Parkway *(County of San Diego)*	Cumulative	This segment is not identified as a "TIF-eligible facility" in the *County of San Diego TIF Transportation Needs Assessment Report*, September 2012. This segment of Harmony Grove Village Parkway is currently built to 2.1E Community Collector standards providing 16,200 ADT of capacity and is classified on the Mobility Element to be improved to 2.2C Community Collector standards providing 19,000 ADT of capacity. Since this section of Harmony Grove Village Parkway is not currently included in the County of San Diego TIF Transportation Needs Assessment Report, it is recommended that he Project provide a northbound to eastbound right-turn overlap phase at the Harmony Grove Road/ Harmony Grove Village Parkway signalized intersection (#19). This will improve both AM and PM peak hour delays at this adjacent intersection by 1.3 and 2.1 seconds, respectively, thereby improving street system operations including this impact, TRA-10.	-	Yes

TABLE 12–1
SUMMARY OF SIGNIFICANT IMPACTS / MITIGATION MEASURES

MM# [1]	Location	Impact Type	Mitigation Measure	Mitigated to Below a Significant Level?	
				LOS	Yes/No? [2]
Access					
–	Country Club Drive along the Project Frontage	–	Improvements to Country Club Drive along the Project frontage are proposed as part of Project design. As discussed in *Section 11.1.1* of this report, Project access is proposed via Country Club Drive south of Harmony Grove Road. The Project will improve the roadway to a "Public Enhanced Residential Collector" to include a three-foot parkway on the west side of the road, a ten-foot parkway on the east side, two eight-foot shoulders, two twelve-foot travel lanes and a 14-center turn lane/striped median. Three approach lanes at the Country Club Drive/ Harmony Grove Road intersection are also proposed: a left-turn lane, thru lane, and dedicated right-turn lane. The left-turn and right-turn lanes will provide 100 feet of storage. The paved width will be 54 feet in a dedicated right-of-way of 67 feet. A design speed exception is requested to reduce the design speed from 30 MPH to 27.5 MPH.	–	–

***Footnotes*:**

1. MM# = Mitigation measure number.
2. Mitigation to lower identified significant impacts to less-than-significant levels has been identified above for the seven impacts within County jurisdiction and the three impacts within City of Escondido jurisdiction. These identified measures will result in less-than-significant impacts for identified direct and cumulative Project-related effects upon implementation, and will become Conditions of the Project, as appropriate. Because the City of Escondido is a lead agency under CEQA for impacts within their jurisdiction, however; it is the City, and not the County, that has responsibility for approval/assurance of implementation of those improvements. As such, the County cannot guarantee ultimate implementation or timing of City-approved mitigation. Thus, for the purposes of this document, impacts within the City of Escondido are identified as remaining significant and unavoidable pending City action.

13.0 REFERENCES AND LIST OF PREPARERS AND ORGANIZATIONS CONTACTED

13.1 References

The following references were used in preparing this Traffic Impact Study.

Highway Capacity Manual (HCM) 2000 and 2010

SANDAG *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002

County of San Diego *Guidelines for Determining Significance—Transportation and Traffic*, dated August 24, 2011

County of San Diego *Report Format & Content Requirements—Transportation and Traffic*, dated August 24, 2011

County of San Diego *Public Road Standards*

SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, March 2, 2000

City of Escondido *General Plan Update Mobility Element*

County of San Diego *General Plan Mobility Element – San Dieguito Planning Area*

Harmony Grove Village Conditions of Approval, 2007

Citracado Parkway Specific Alignment Plan and Final Environmental Impact Report, approved April 2012

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13.3 Organizations Contacted

County of San Diego, Department of Public Works Transportation Division

City of Escondido, Community Development Department – Planning

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