Appendix F

Traffic Impact Analysis

TRAFFIC IMPACT ANALYSIS UPDATE

SANTA MARGARITA QUARRY EXTENSION
- San Luis Obispo County -

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EXECUTIVE SUMMARY

The following report presents an evaluation of the potential traffic impacts associated with the Santa Margarita Quarry Extension project. Hanson Aggregates Mid-Pacific is applying for a modification to an existing Conditional Use Permit (CUP) and Reclamation Plan Amendment (RPA) for an extension of the existing operations. The project will extend the life of quarry reserves by adding adjacent lands to the permitted site. It is estimated that current permitted reserves would be depleted in roughly 20 years under average conditions. Development of the adjacent aggregate resources will extend the life by an additional 38 years beyond the anticipated depletion of the currently entitled reserves. The project does not propose any increase in the annual production limits or intensification of the existing operations beyond currently permitted levels. The current quarry operations would continue as currently entitled. Primary access to the quarry is currently provided via a private road connection to El Camino Real north of Santa Margarita. A secondary access connection to State Route (SR) 58 is located northeast of Pozo Road, which is restricted for emergency-only access.

Hanson Aggregates purchased the site in the 1980's and continues to operate the site. The existing CUP has a maximum limit of generating 294 truckloads per day. Data for the quarry operations was provided for a 10 year period (2002-2011). During this period the quarry generated an average of 89 daily truckloads. Only once during the past 3 years was the limit of 294 daily truckloads experienced. Average quarry operations typically generate approximately 228 daily trips (two-way trip ends), with 30 trips during the AM peak hour and 19 trips during the PM peak hour. Peak quarry operations that reflect the truckload limit are estimated to generate approximately 668 ADT, with 52 trips during the AM peak hour and 21 trips during the PM peak hour. Traffic associated with peak operating conditions at the quarry is spread out more evenly over a 24 hour period.

Additional information presented in this Traffic Impact Analysis (TIA) Update has been prepared in response to comments received on the original TIA. The comments and data requests were provided by the County Public Works Department and Aspen Environmental Group. A formal Response to Data Request letter was prepared by the Wallace Group, and each traffic related comment and/or issue is addressed in either the Response to Data Request Letter or this TIA Update.

The evaluation of existing conditions was conducted using 24-hour traffic count and vehicle classification data collected in 2011 on El Camino Real, and daily traffic volume data obtained from the County's, Caltrans and Atascadero's websites. The existing daily traffic volume data analyzed in the TIA Update includes the trips associated with the "average" operating conditions at the Santa Margarita Quarry, and therefore, is part of the baseline traffic for all study scenarios. The study roadways include segments on US 101, El Camino Real, State Route (SR) 58, Santa Barbara Road and Pozo Road. The TIA Update included updating the daily traffic volume data on the study segments of US 101 and SR 58. Average daily traffic (ADT) threshold criteria published by the County and contained in the various referenced documents was utilized to determine the "level of service" (LOS) values on the various roadway segments. Per the County's and Caltrans standard, the LOS C threshold was used as the lower limit for acceptable operations. The roadway segment analysis indicates that existing daily volumes on the local roadway network are within acceptable limits as defined by San Luis Obispo County. The vehicle classification data indicates that during an average weekday truck traffic comprises about 4-5% of the total traffic on El Camino Real.

The evaluation of existing conditions includes a review of traffic accident records for Santa Barbara Road, El Camino Real and SR 58. Accident records were obtained from the California Highway Patrol for a 6-year period (January 2005 to December 2010). During this period there were 96 reported accidents on the study roadway network. Approximately 28% of the reported accidents

only involved a single vehicle, while 11% were DUI related and 22% were caused by a vehicle traveling at an unsafe speed. About 28% of the accidents involved a personal injury, with 2 fatalities. There were 10 accidents that involved a large truck (6 north of the quarry access road and 4 south of the quarry access road). There were no reported accidents at the El Camino Real and existing quarry access road intersection. The accident rates for the study roadway segments were calculated for a comparison with the State averages. A comparison of the accident rates indicates that the existing rates are less than the State average rates on Santa Barbara Road, El Camino Real (quarry access road to Estrada Avenue), El Camino Real - SR 58 (Murphy Avenue to US 101), and at the El Camino Real / Santa Barbara Road intersection. However, the existing accident rates exceed the State average rates on El Camino Road (quarry access road to Santa Barbara Road) and El Camino Real through Santa Margarita (Estrada Avenue to Murphy Avenue).

A review of the accident records along the section of El Camino Real north of the quarry access road indicates that approximately 30% occur along the horizontal curve located about one-half mile north of the quarry access road. A majority of the remaining accidents along this section of El Camino Real occurred between Sandoval Road and Santa Barbara Road. It should be noted that separate left turn lanes were recently constructed on El Camino Real at Carmel Road. Therefore, these improvements have improved safety and reduced the accident potential near this intersection. Various primary collision factors are attributable to the accidents along El Camino Real through Santa Margarita between Estrada Avenue and Murphy Avenue. A review of the accident records indicates that only 5 of the 9 accidents occurred during daylight hours. Thirty-three percent (33%) of the accidents involved a vehicle that hit a parked car, which includes the only 2 truck related accidents. Thirty-three percent (33%) only involved a single vehicle, with 1 accident caused by an animal entering the roadway and 1 accident involving a driver under the influence (DUI). The remaining 33% involved a vehicle performing an improper left turn or U-turn movement (failure to yield ROW). Only 1 of the reported accidents involved an injury and none of the accidents involved a pedestrian. A review of accident data did not identify any correctable accident patterns.

The analysis of potential project traffic impacts includes an evaluation of the Existing Plus Approved Projects Conditions. This study scenario includes an evaluation of operations resulting from the development of future "approved" projects. These projects have already received entitlements from the County, and therefore, could be built and occupied prior an approval of the Santa Margarita Quarry Extension project. The approved projects are estimated to generate an additional 9,702 daily trips; with 662 trips during the AM peak hour and 1,135 trips during the PM peak hour. External traffic demands associated with the approved projects will be approximately 88% of the total traffic. The roadway segment LOS analysis indicates that daily traffic volumes will remain within acceptable limits under the existing plus approved projects study scenario.

The identification of project specific impacts is based on "level of significance" criteria defined by San Luis Obispo County, Caltrans and CEQA. Typically, project-specific impacts identified as potentially significant require appropriate mitigation measures to reduce the potential impact to a "less than significant" level. In some cases mitigation measures maybe infeasible or will not reduce the impact to a less than significant level. In such a case, the public agency may grant approval with "over riding" consideration for an identified significant, unmitigatable impact, where project benefit outweighs the adverse impacts. Since the quarry extension project does not propose any increase in the annual production or intensification of existing operations, the proposed project will not generate any new daily or peak hour vehicle trips or have a measurable impact on existing or existing plus approved projects conditions. To fully evaluate the potential project impacts on future conditions it was deemed appropriate to analyze the incremental difference between the existing "average" and "peak" quarry operations. The roadway segment analysis indicates that the existing plus approved

projects plus project (peak operations) daily traffic volumes on the study roadway segments are also within acceptable limits as defined by San Luis Obispo County (LOS C or better).

The evaluation of potential project impacts includes a review of access and safety on El Camino Real. An analysis of sight distance was conducted using criteria in the Caltrans Highway Design Manual. The analysis demonstrates that there is sufficient sight distance for vehicles traveling on El Camino Real and exiting the quarry access road. The line of sight and availability of sight distance from the quarry access road complies with the County's standard for Intersection & Driveway Sight Distance.

The TIA Update provides a discussion of the potential need to widen the southbound shoulder on El Camino Real. The proposed project will not generate any new vehicle trips and does not proposed any roadway improvements along El Camino Real. Though the existing shoulder condition may be attributable to existing truck traffic associated with the quarry operations, this traffic and any resulting wear is part of the baseline condition and not an impact associated with the project. Maintenance of the roadway is typically a function of local roadway maintenance and improvements that are funded through property and/or other County and user tax revenue sources.

The review of project access includes a detailed evaluation of left and right turn lane warrant criteria at the quarry access road intersection. The evaluation indicates that turning movement traffic demands during the AM and PM peak hour periods are below the minimum volume criteria warranting a separate left (southbound) or right (northbound) turn lane on El Camino Real at the quarry access road. An exclusive left or right turn lane on El Camino Real at the quarry access road will not be warranted under the existing plus approved projects scenario.

During the County's pre-application meeting the project applicant was notified that the County standard deceleration and acceleration tapers would be required on El Camino Real. A review of an aerial photograph indicates that there may be sufficient pavement already in place to accommodate a deceleration taper with some minor striping improvements, but that minor roadway improvements may be necessary to provide an acceleration taper. Design of these improvements is outside the scope of the TIA Update.

A detailed review of the accident data for the segment of El Camino Road through Santa Margarita (Estrada Avenue to Murphy Avenue) did not identify any correctable accident patterns. However, the County and Caltrans may consider improving street lighting levels to reduce the accident potential during dark nighttime conditions. The discussion of a "fair-share" mitigation for safety improvements at the El Camino Real/Estrada Avenue intersection concluded that the future roadway widening and traffic signal improvements will be triggered by increased traffic demands associated with background growth and new development. Any safety improvements that may be warranted on El Camino Real at Encina Avenue should be based on a detailed evaluation of safety. Again, the proposed project will not generate any new daily or peak hour vehicle trips, and therefore, will have no measurable or adverse safety impacts along the segment of El Camino Real through Santa Margarita as defined by CEQA.

Since the proposed project will not increase the current annual production limits or intensification of existing operations, and not generate any new vehicle trips, it is concluded that the project will not significantly impact existing or existing plus approved projects operations on the local roadway network. The analysis of the existing plus approved projects plus project conditions did not identified any potentially significant impacts associated with the proposed project. Therefore, no mitigation measures are required for the existing plus approved projects plus project scenario.

An evaluation of the baseline cumulative scenario represents future traffic conditions over the next 20-25 years. The analysis of baseline cumulative operations is based on the development of future approved and pending projects. Pending cumulative projects are those projects that have submitted a development application, but have not received approval or any entitlements. At the request of County staff, the analysis of cumulative conditions presented in this project TIA Update includes traffic associated with the Las Pilitas (Oster) Quarry project. The pending projects are estimated to generate an additional 11,176 daily trips; with 787 trips during the AM peak hour and 1,052 trips during the PM peak hour. As previously stated, the current permitted reserves at the quarry could be depleted in approximately 21 years under average operating conditions. However, the existing quarry traffic will not increase or intensify under the proposed project, and is considered part of the existing baseline conditions and under CEQA would not be considered new traffic under cumulative scenario. The roadway segment analysis conducted for baseline cumulative conditions indicates that daily traffic volumes on the study roadway segments will remain with acceptable limits (LOS C or better), which include traffic associated with the existing quarry average operations.

The baseline cumulative roadway segment analysis was also conducted to evaluate the potential project impacts associated with the incremental difference between the "average" and "peak" quarry operations. The analysis demonstrates that the baseline cumulative plus project (peak operations) daily traffic volumes on the study roadway segments will remain within acceptable limits (LOS C or better).

The southbound left turns to the quarry access road will comprise about 8-9% of the total cumulative approaching weekday AM peak hour volume under average operating conditions. Cumulative peak hour traffic demands will not exceed the minimum volume warrant for a separate left turn lane on the southbound approach of El Camino Real at the quarry access road or a northbound right turn lane on the northbound approach of El Camino Real.

Again, a review of the accident data for the segment of El Camino Road through Santa Margarita did not identify any correctable accident patterns. The discussion of a "fair-share" mitigation for safety improvements at the El Camino Real/Estrada Avenue intersection concluded that the future improvements will be triggered by increased traffic demands associated with background growth and new development. Again, the proposed project will not generate any new daily or peak hour vehicle trips, and therefore, will have no measurable or adverse safety impacts along the segment of El Camino Real through Santa Margarita as defined by CEQA.

Since the proposed project will not generate any new daily or peak hour vehicle trips, it is concluded that based on the CEQA "level of significance" criteria the proposed project will not significantly impact cumulative traffic operations on the local roadway network serving the project site.

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APPENDIX MATERIAL

- San Luis Obispo County Public Works Comment Letter (July, 9, 2012)
- San Luis Obispo County Planning Building Data Requests (Aug. 28, 2013 and Sept. 9, 2013)
- Wallace Group Response to Data Request Letter - Traffic Issues (October 8, 2013)
- New 24-Hour Traffic Count and Vehicle Classification Data on El Camino Real (Nov. 2011)
- Level of Service (LOS) Descriptions
- South County ADT Level of Service Threshold Criteria for Roadway Segments
- CHP Traffic Accident Records (Jan. 2005 thru Dec. 2010)
- Traffic Count Breakdown and Project Trip Generation
- El Camino Vehicle Speed Data and Sight Distance Data
- Caltrans Highway Design Manual (HDM) Sight Distance Material
- Left and Right Turn Lane Warrant Criteria Graphs
- San Luis Obispo County's Rural Driveway Approach Detail (Drawing No. B-1e)

I. INTRODUCTION

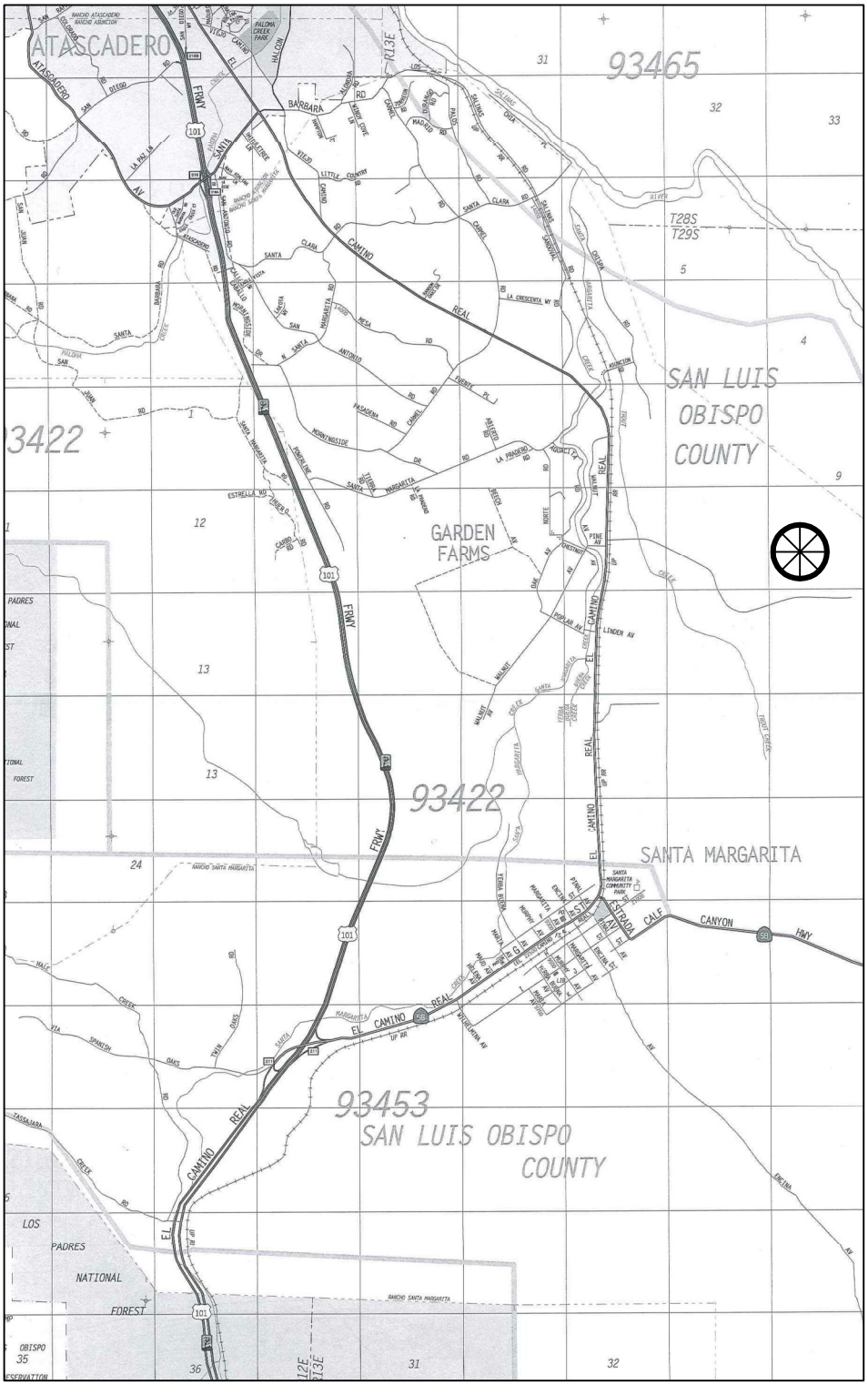
The following report presents an evaluation of the potential traffic impacts associated with the Santa Margarita Quarry Extension project in the unincorporated area of San Luis Obispo County north of Santa Margarita. Hanson Aggregates Mid-Pacific is applying for a modification to an existing Conditional Use Permit (CUP) and Reclamation Plan Amendment (RPA) for an extension of the existing quarry pit into adjacent properties. The project will extend the life of the quarry by adding 33 acres to the permitted 85-acre quarry pit area. With this extension, the total proposed area within the reclamation boundary would be 193 acres including buffers, storage and processing areas and related activities. Development of the adjacent aggregate resources will extend the life by an additional 38 years beyond the anticipated depletion of the currently entitled reserves. The project does not propose any increase in the annual production limits or any intensification of existing operations beyond currently permitted levels. The current quarry operations would continue as entitled under the existing CUP. Primary access to the quarry is currently provided via a private road connection to El Camino Real about 1.8 miles north of Santa Margarita. A secondary access connection to State Route (SR) 58 (California Canyon Highway) is located about 1.5 miles northeast of West Pozo Road, which is restricted for emergency-only access. The general location of the project site is illustrated on Figure 1.

A Final Environmental Impact Report (EIR) was adopted by the County in 1999, which extended the hours of operation and increased the number of daily truckloads (represents current baseline operations). County staff has indicated that a new EIR would be required for the proposed quarry extension project. Since the project does not propose any change in the current levels and limits of operations, and would only allow a life extension of the current quarry operations, the project's permitted average traffic is part of the current baseline. The Traffic Impact Analysis (TIA) Update provides an evaluation of the incremental difference between the "average" and "peak" operations on long term cumulative traffic conditions. The TIA Update also documents existing conditions and presents an evaluation of the incremental increase between "average" and "peak" operations at the existing quarry.

An evaluation of the following study scenarios are presented in the project TIA:

- Existing Conditions (includes traffic associated with "average" quarry operations)
- Existing Plus Approved Projects Conditions (includes traffic associated with "average" quarry operations)
- Existing Plus Approved Projects Plus Peak Quarry Operation Conditions (analysis of increase between average and peak quarry operations)
- Cumulative "Baseline" Conditions (includes traffic associated with "average" quarry operations)
- Cumulative Plus Peak Quarry Operation Conditions (analysis of increase between average and peak quarry operations)

Additional information presented in this TIA Update has been prepared in response to comments received on the original project TIA and request for additional data. The original TIA was prepared by Rick Engineering (May 15, 2012). The comments and data requests were provided by the County Public Works Department and Aspen Environmental Group (July 9, 2012; August 28, 2013; and September 9, 2013). The following is a summary of the comments and data request issues:



LEGEND

= General Project Area

NORTH

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FIGURE 1
PROJECT LOCATION MAP

- Proposed use of secondary access driveway on SR 58
- Include the Las Pilitas (Oster) Quarry in cumulative analysis
- Update cumulative analysis based on current County list of pending projects
- Potential impacts to southbound shoulder of El Camino Real
- Reconstruction of project access driveway approach per County standard
- Analyze need for southbound left turn lane on El Camino Real (project access driveway)
- Fair-share mitigation for safety on El Camino Real at Estrada Avenue
- Fair-share mitigation for safety on El Camino Real, Estrada Avenue to Murphy Avenue
- Update impact analysis based on quarry operations between 2003 and 2012

A copy of the comment and data request documents is included with the Appendix Material, along with the traffic related issues addressed in the Response to Data Request letter prepared by the Wallace Group (October 8, 2013). Each traffic related comment and/or issue is addressed in either the Response to Data Request Letter or this TIA Update.

Information in the following public documents was reviewed during the course of conducting the project TIA Update:

- San Luis Obispo County General Plan Transportation Plan
- Salinas River Area Plan (Revised October 2009)
- San Luis Obispo Council of Governments (SLOCOG) 2010 RTP
- San Luis Obispo Council of Governments (SLOCOG) Route 58 TCR
- City of Atascadero General Plan 2020
- Southern Pacific Milling Final EIR Traffic Section (1999)
- Santa Margarita Ranch EIR Transportation and Circulation Section
- Eagle Ranch Development Environmental Constraints Analysis
- Topaz Solar Farm Transportation Impact Study (July 2010)
- California Valley Solar Ranch Transportation Assessment (March 2010)
- Las Pilitas Rock Quarry Traffic Impact Study (ATE, April 24, 2012)

The project TIA Update was conducted according to the guidelines published by San Luis Obispo County (Traffic Impact Study Polices, March 2007) and Caltrans (Guide for the Preparation of Traffic Impact Studies, December 2002).

II. EXISTING CONDITIONS

The local street system serving the project site includes US 101, State Route (SR) 58, El Camino Real and Santa Barbara Road. The following is a brief description of the street system and an evaluation of existing traffic operations.

Network Description

US 101 in the vicinity of Santa Margarita and Atascadero has a 4-lane divided freeway section (2 travel lanes in each direction), with a posted speed limit of 65 miles per hour (mph). This section of US 101 also has a 55 mph speed limit for trucks with 3 axles or more. There are "grade separated" interchanges for SR 58 (El Camino Real) and Santa Barbara Road. The north and southbound on-off ramps for SR 58 (El Camino Real) are free-flowing, with the northbound off-ramp posted with a 50 mph speed limit. The north and southbound off-ramps at Santa Barbara Road are currently stop sign controlled.

SR 58 is an east-west State highway that extends between US 101 and SR 99 in Bakersfield. East of US 101, SR 58 follows El Camino Real through Santa Margarita with a single travel lane in each direction, and a posted speed limit of 45 mph between Wilhelmina Avenue and Maria Avenue. Between Maria Avenue and Estrada Avenue, SR 58 (El Camino Real) has a posted speed limit of 35 mph. SR 58 continues east of El Camino Real at Estrada Avenue and becomes California Canyon Highway east of Santa Margarita. East of El Camino Real, SR 58 has a single travel lane in each direction with a signalized “at-grade” crossing of the Union Pacific Railroad (UPRR). There is a 25 mph "school zone" speed limit between the UPRR tracks and I Street (H Street provides access to Santa Margarita Elementary School). There a sign posted for eastbound traffic (east of UPRR) stating, “SR 58 Not Advisable for Trucks with Trailers use SR 46 or SR 166.” SR 58 (California Canyon Highway) continues east of Santa Margarita along a circuitous vertical and horizontal alignment towards the San Joaquin Valley.

El Camino Real is a north-south 2 lane arterial that follows SR 58 through Santa Margarita and continues north to the City of Atascadero. Through Santa Margarita El Camino Real has a posted speed limit of 35 mph between Maria Avenue and Estrada Avenue. There is a two-way left turn lane striped between Murphy Avenue and Pinal Avenue, and a high visibility pedestrian crosswalk on the north leg of the El Camino Real and Encina Avenue intersection. El Camino Real between Estrada Avenue and Santa Barbara Road has a posted 55 mph speed limit. Passing is prohibited along various sections and near the horizontal curves. There are separate left turn lanes provided at Carmel Road. The El Camino Real and Santa Barbara Road is signalized, with north-south left turn phasing. There is a sign posted for southbound traffic approaching Santa Margarita stating, “SR 58 Not Advisable for Trucks with Trailers use SR 46 or SR 166.” Also for northbound traffic approaching Estrada Avenue there is a sign indicating, “Tractor-Semi’s Over 30 Feet King Pin to Rear Axle Not Advised.”

Santa Barbara Road is a 2 lane arterial that extends east from Atascadero Avenue (west of US 101) to Los Palos Road (east of El Camino Real). The US 101 southbound ramps intersection is controlled with “all way” stop and the US 101 northbound off ramp is stop sign controlled. A majority of Santa Barbara Road between US 101 and El Camino Real is striped with a 3 lane section (two-way left turn).

Local Bicycle and Transit Facilities

El Camino Real has Class II bike lanes through Santa Margarita and on the section between Santa Margarita and the City of Atascadero. Santa Barbara Road also has Class II bike lanes between US 101 and El Camino Real. San Luis Obispo County Regional Transit Authority (RTA) currently provides service to Santa Margarita and the rural residential areas along El Camino Real. There are RTA bus stops in both directions on El Camino Real at Pine Street (just south of the existing quarry access road).

Union Pacific Railroad

The Union Pacific Railroad (UPRR) tracks are located on the east side of El Camino Real. The existing quarry access road crosses the tracks at a location that is signalized with an automated gate. North and south of the existing access road the UPRR tracks have a relatively straight horizontal alignment with good visibility looking in both directions from the access road. The centerline of the southbound tracks is located approximately 45' east of the northbound shoulder stripe on El Camino Real. The entry gate that serves Santa Margarita Ranch and the quarry property is located about 85-90' east of the northbound tracks centerline. This entry gate remains open at all time since it serves multiple users.

Traffic Volumes

To document existing conditions along El Camino Real, 24-hour traffic count data was collected for a 7-day period north and south of the existing quarry access road (November 1-7, 2011). The 2011 traffic count data also included vehicle classification data. The classification data indicates that large trucks (three, four and five axles) comprise approximately 3-4 percent of the 7-day average traffic on El Camino Real adjacent to the project site. During an average weekday (Monday through Friday) truck traffic comprises about 4-5% of the total traffic on El Camino Real. Existing daily traffic volume data was also obtained from the County's, Caltrans and Atascadero's websites. During the process of preparing the project TIA Update, the Caltrans and County websites were again visited to update the daily traffic volume data for US 101, SR 58 and El Camino Real. The Caltrans website indicates that 2012 average daily traffic volumes on US 101 have increased slightly, while 2012 average daily traffic volumes on SR 58 have gone down. Daily volumes on SR 58 (El Camino Real), west of Pinal Street have gone down from 7,200 ADT in 2010 to 4,700 ADT in 2012. Daily traffic volumes on SR 58 east of Santa Margarita have also gone since 2010. The County's website did not indicate that additional traffic count data was available. The existing traffic volumes used for the TIA Update are illustrated on Figure 2, which includes the 2012 Caltrans traffic count data. It should be noted that the 2011 and 2012 traffic count data includes traffic associated with the existing average quarry operations, and traffic associated with the construction operations at the Topaz Solar Farm and California Valley Solar Ranch (CVSR) projects. Copies of the 2011 traffic count data are included with the Appendix Material.

Level of Service Threshold Criteria and Analysis

Various "level of service" (LOS) analyses methodologies are used to evaluate traffic operations. Operating conditions range from LOS "A" (free-flowing conditions) to LOS "F" (forced-flow conditions). LOS values for street segments can be estimated by comparing average daily traffic

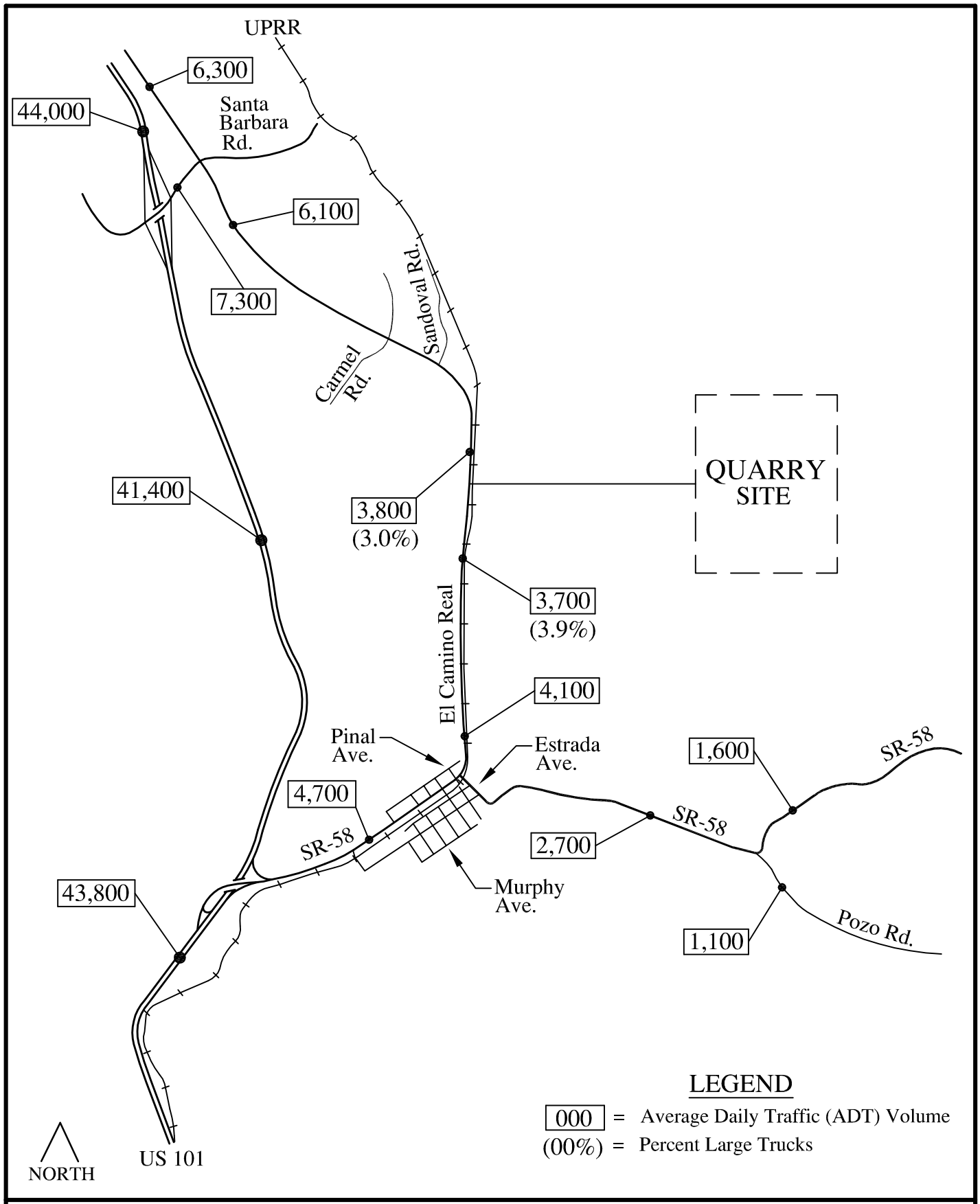

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FIGURE 2
EXISTING TRAFFIC VOLUMES

(ADT) volume data with the twenty-four (24) hour ADT threshold criteria developed from data in the Highway Capacity Manual (HCM2000), Transportation Research Board. The current ADT threshold criteria published by the County and contained in various EIR documents is utilized for the project TIA Update.

San Luis Obispo County has established the LOS C threshold as the lower limit for acceptable traffic operations on rural facilities and LOS D threshold as the lower limit for acceptable operations on urban facilities. The Caltrans traffic impact study guidelines state that, "Caltrans endeavors to maintain a target level of service at the transition between LOS C and D on State highway facilities." Therefore, the LOS C threshold is used in the project TIA Update as the lower limit for acceptable operations on the local street system. A brief description of the LOS values and the 24 Hour (2 day period) ADT Volume Threshold Criteria are included with the Appendix Material. The LOS analysis of existing roadway segments is presented in Table 1, which as previously stated includes the "average" operations quarry traffic currently permitted. The roadway segment LOS analysis indicates that existing daily traffic volumes are within acceptable limits as defined by San Luis Obispo County (LOS C or better).

Table 1 - Existing Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	ADT - LOS (d)
US 101, n/o Santa Barbara Road	4 (a)	80,000	44,000 - C
US 101, Santa Barbara Road - SR 58	4 (a)	80,000	41,400 - B
US 101, s/o SR 58	4 (a)	80,000	43,800 - C
Santa Barbara Rd, US 101 NB Ramps-El Camino Real	2 (b)	18,000	7,300 - A
El Camino Real, s/o Santa Barbara Road	2 (c)	11,250	6,100 - B
El Camino Real, n/o Project Access Road	2 (c)	11,250	3,800 - A
El Camino Real, s/o Project Access Road	2 (c)	11,250	3,700 - A
El Camino Real, n/o SR 58	2 (c)	11,250	4,100 - A
SR 58, Murphy Avenue - Pinal Avenue	2 (b)	18,000	4,700 - A
SR 58, El Camino Real - Pozo Road	2 (c)	11,250	2,700 - A
SR 58, e/o Pozo Road	2 (c)	11,250	1,600 - A
Pozo Road, s/o SR 58	2 (c)	11,250	1,100 - A

(a) 4 lane freeway
(b) 2 lane arterial with left turn lanes
(c) 2 lane arterial with no left turn lanes
(d) Acceptable "levels of service" defined by San Luis Obispo County (LOS C or better)

Data contained in the Las Pilitas Rock Quarry Traffic Impact Study indicates that traffic operations at the SR 58 (El Camino Real) and Estrada Avenue intersection are currently within acceptable limits during the AM and PM peak hour periods. In addition, an evaluation of traffic signal warrants at the SR 58 (El Camino Real) and Estrada Avenue intersection demonstrates that existing volumes do not exceed the minimum criteria for the consideration of traffic signal control.

Traffic Accident Data

Traffic accident records for Santa Barbara Road, El Camino Real and SR 58 were obtained from the California Highway Patrol (CHP) for a 6-year period (Jan. 2005 to Dec. 2010). The data indicates that there were 96 reported accidents for the 6 year period between 2005 and 2010. Approximately 75% of the accidents occurred during daylight hours, 28% only involved a single vehicle, 11% were DUI related, and 22% were caused by a vehicle traveling at an unsafe speed. About 28% of the accidents involved a personal injury, with 2 fatalities. One of the fatality accidents occurred at night and involved a pedestrian that was struck by a vehicle with a driver under the influence of alcohol (DUI). The second fatality accident also occurred at night and involved a single vehicle that overturned due to an excess speed. There were 10 accidents that involved a large truck (10%), which included 6 accidents north of the quarry access road and 4 accidents south of the quarry access road. The nearest accident to the quarry access road was located approximately 350' to the north and involved a single vehicle traveling northbound which lost control under wet and dark conditions. There were no reported accidents at the El Camino Real and quarry access road intersection.

Accident rates for a given period are calculated by dividing the number of accidents by the "million vehicle miles traveled" for a roadway segment or "million vehicles entering" for an intersection. The "million vehicle miles traveled" is derived by multiplying the average number of daily vehicles on a roadway segment (both directions) by the number of days in the sample period (ie: 6 years) and then multiplying that number by the length of the segment. At an intersection, the number of "million vehicles entering" is derived by multiplying the average number of daily vehicles entering the intersection (each approach) by the number of days in the sample period (ie: 6 years). Though the accident rates include single vehicle and DUI related accidents, these types of accidents may be more related to driver behavior than actual roadway conditions. In addition, DUI and speeding related accidents can be partially attributable to the lack of adequate enforcement. A summary of the accident and accident rate data is presented in Table 2. A comparison with the State average accident rates is also provided. Copies of the accident records are included in the Appendix Material.

Table 2 - Traffic Accident and Accident Rate Data Summary

Roadway Segment or Intersection	No. of Accidents	Existing Rate (a)	State Average Rate (a)
Santa Barbara Road (b)	8	1.11	1.30
El Camino Real / Santa Barbara Road (c)	11	0.46	0.55
El Camino Real (d)	51	1.62	0.82
El Camino Real (e)	4	0.27	0.84
El Camino Real - SR 58 (f)	9	1.59	1.30
El Camino Real - SR 58 (g)	13	0.66	0.80

(a) Accident rate based on "million vehicle miles traveled" for roadway segment or "million vehicles entering" an intersection
(b) Segment between US 101 & El Camino Real (0.45 miles) - 2 Ln. arterial with left turn lanes
(c) Signalized intersection with 4 approaches
(d) Segment btw. Santa Barbara Rd. & Quarry Access Rd. (2.87 miles) - 2 Ln. arterial no Lt. lanes
(e) Segment btw. Quarry Access Rd. & Estrada Ave. (1.75 miles) - 2 Ln. arterial no left turn lanes
(f) Segment between Estrada Ave. & Murphy Ave. (0.36 miles) - 2 Ln. arterial with left turn lanes
(g) Segment between Murphy Ave. & US 101 (1.25 miles) - 2 Ln. arterial no left turn lanes

The data in Table 2 indicates that the existing accident rate is less than the State average accident rate on Santa Barbara Road, El Camino Real (quarry access road to Estrada Avenue), El Camino Real - SR 58 (Murphy Avenue to US 101), and at the El Camino Real / Santa Barbara Road intersection. However, the existing accident rates exceed the State average rates on El Camino Road between the quarry access road and Santa Barbara Road, and El Camino Real through Santa Margarita (Estrada Avenue to Murphy Avenue). A review of the records along the section of El Camino Real north of the quarry access road indicates that approximately 30% occur along the horizontal curve located about one-half mile north of the quarry access road. This horizontal curve does have a posted "curve advisory" speed of 50 mph. A majority of the remaining accidents along this section of El Camino Real occurred between Sandoval Road and Santa Barbara Road. Separate left turn lanes recently constructed on El Camino Real at Carmel Road have improved safety and reduced the accident potential near this intersection.

Various primary collision factors are attributable to the accidents along El Camino Real through Santa Margarita (Estrada Avenue to Murphy Avenue). A detailed review of the accident data indicates that 5 of the 9 reported accidents along this segment of El Camino Real occurred during daylight hours, while the other 4 accidents occurred under dark nighttime conditions. Three (3) of the accidents involved a vehicle that hit a parked car (1 during day light hour and 2 under dark conditions), which includes the only 2 accidents that involved a truck. Three (3) of the accidents only involved a single vehicle, with 1 accident caused by an animal entering the roadway and 1 accident involving a driver under the influence (DUI). The remaining 3 accidents involved a vehicle performing an improper left turn or U-turn movement (failure to yield ROW). Only 1 of the reported accidents involved an injury and none of the accidents involved a pedestrian. A review of accident data did not identify any correctable accident patterns.

As previously discussed, approximately 39% of the accidents involved only 1 vehicle or were DUI related. These types of accidents may be more related to driver behavior than actual roadway conditions. In addition, DUI and speeding related accidents can be partially attributable to the lack of enforcement. The County and Caltrans may consider improving street lighting levels to reduce the accident potential during dark nighttime conditions.

III. EXISTING PLUS APPROVED PROJECTS CONDITIONS

An evaluation of "existing plus approved projects" conditions is an analysis of traffic operations resulting from the development of approved future projects in this portion of the County. These projects have already received entitlements from the County, and therefore, could be built and occupied prior to approval of the Santa Margarita Quarry Extension project. As noted previously, approval of the proposed extension project only extends the quarry's operational life, as the existing quarry traffic is already part of the baseline traffic. County staff provided a list of approved projects to be included in the project TIA, which also included the status of local projects currently under construction. Information on the County's website was also researched. For the project TIA Update, County staff did not identify any additional approved projects that should be included in the analysis of this scenario. The general locations of the approved projects are illustrated on Figure 3.

Trip Generation Estimates

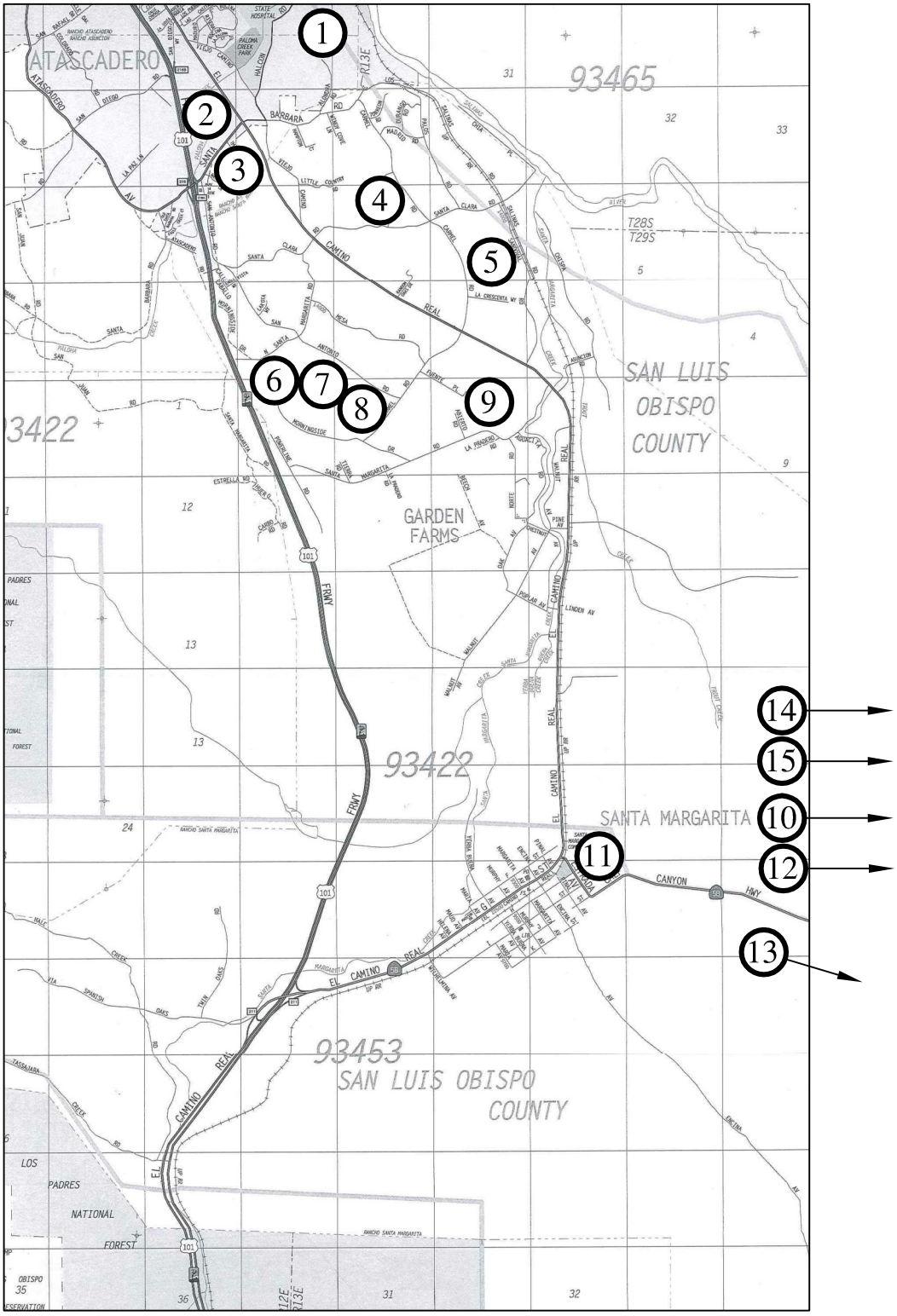
The trip generation estimates associated with the current approved projects were derived using data contained in the Institute of Transportation Engineers (ITE) Trip Generation manual (8th Edition). The various land use category descriptions were reviewed to determine the most appropriate trips rates for each approved project. Data from other project traffic reports is also referenced when applicable. The applicable ITE trip generation rates for the approved projects are displayed in Table 3. A review of the trip generation rates in the recently published 9th edition manual demonstrates that the updated rates are slightly less or equal to those rates in the 8th edition manual. Trip generation rates in Table 3 were not updated, and therefore, provide a conservative analysis of the potential trip generation associated with the approved projects. Trip generation rate data for the cumulative "pending" projects is also presented in Table 3. The analysis of cumulative traffic conditions (approved and pending projects) is presented in a separate section of the project TIA Update.

Table 3 - ITE Trip Generation Rates

ITE Code - Land Use	Number of Vehicle Trips				
	AM Peak Hour		PM Peak Hour		Daily
	In	Out	In	Out	
#210 - Single Family Detached (a)	0.19	0.56	0.64	0.37	9.57
#820 - Shopping Center (b)	0.61	0.39	1.83	1.90	42.94

(a) Number of vehicle trips per residential dwelling unit
(b) Number of vehicle trips per 1,000 square feet

The approved projects trip generation estimates were derived using the ITE trip generation rate data presented in Table 3. The approved projects trip generation estimates are displayed in Table 4.



LEGEND

NORTH

(0) = Background Project No.
(See Table 4)

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FIGURE 3
APPROVED
PROJECTS
LOCATION MAP

Table 4 - Approved Projects Trip Generation Estimates

Project No.	Land Use Description	Number of Vehicle Trips				
		AM Pk. Hr.		PM Pk. Hr.		Daily
		In	Out	In	Out	
1	Los Lomas- 232 SFDU (a)	44	130	148	86	2,220
2	Dove Creek:					
	Residential - 225 SFDU (b)	43	126	144	83	2,154
	Retail - 60,000 SF	37	23	110	114	2,576
3	Barre Parcel - 2 SFDU	0	1	1	1	20
4	Ioppini Parcel - 2 SFDU	0	1	1	1	20
5	Volbrecht Parcel - 2 SFDU	0	1	1	1	20
6	Galena Parcel - 2 SFDU	0	1	1	1	20
7	Kelling Parcel - 2 SFDU	0	1	1	1	20
8	Burgett Parcel - 3 SFDU	1	2	2	1	28
9	Johansen Parcel - 2 SFDU	0	1	1	1	20
10	Dickerson Parcel - 2 SFDU	0	1	1	1	20
11	Kregger Parcel - 4 SFDU	1	2	3	2	38
12	Damon Parcel - 2 SFDU	0	1	1	1	20
13	Santa Margarita Ranch (c) - 150 SFDU	29	84	96	56	1,436
14	Topaz Solar Farm (d & e)	118	12	12	118	428
15	California Valley Solar Ranch (f & g)	150	7	3	141	800
	Totals:	268	394	526	609	9,702
	External Demands (h):	406	384	477	558	8,542

(a) Total 279 SFDU, with 47 built/occupied
(b) Total 279 SFDU, with 54 built/occupied
(c) Trip generation from the Santa Margarita Ranch EIR
(d) Trip generation from Traffic Report prepared by Wood Rodgers (July 2010)
(e) Topaz Solar Farm construction is scheduled for completion in 2015
(f) Trip generation from Traffic Report prepared by Fehr & Peers (March 11, 2010)
(g) California Valley Solar Ranch construction was completed in October 2013
(h) Based on a 45% reduction for retail related pass-by, diverted link and captured trips

The data in Table 4 demonstrates that the approved projects will generate an additional 9,702 daily trips (two-way trip ends); with 662 trips during the AM peak hour (268 inbound and 394 outbound) and 1,135 trips during the PM peak hour (526 inbound and 609 outbound). External demands associated with the approved projects will be approximately 88% of the total daily traffic (8,542 ADT vs. 9,702 ADT) and approximately 91% of the PM peak hour trips (1,035 vs. 1,135) trips.

Footnotes provided in Table 4 indicate that the trips associated with the Santa Margarita Ranch, Topaz Solar Farm and CVSR projects were obtained from the traffic reports prepared for each project. Trips associated with the Topaz Solar Farm and CVSR projects reflect the construction phase for each project, which as previously stated is included in the 2011 traffic count data collected on El Camino Real (north and south of the quarry access road). The construction traffic for the CVSR project has ceased since the project was completed and went online in October 2013. The Topaz Solar Farm construction traffic will ultimately be eliminated upon completion of Phase 6 in the next 12-18 months.

Trip Assignment and Existing Plus Approved Projects Traffic Volumes

The trips associated with each approved project were assigned to the local street system based on a review of local traffic patterns and knowledge of local demographics. The trips associated with the Santa Margarita Ranch, Topaz Solar Farm and CVSR projects were obtained from the individual traffic reports. As previously stated, the Topaz Solar Farm and CVSR (completed) projects under construction may be completed prior to approval of the Santa Margarita Quarry Extension project. The trips associated with the approved projects were then combined with the existing traffic volumes on Figure 2. The existing plus approved projects traffic volumes are shown on Figure 4.

Levels of Service Analysis

Similar to the analysis conducted for existing conditions, the roadway segment LOS values were calculated for the existing plus approved projects traffic conditions. The results of the existing plus approved projects roadway segment LOS analysis are presented in Table 5. The existing roadway segment ADT and LOS values are also provided in Table 5, for comparison purposes.

Table 5 - Existing Plus Approved Projects Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	ADT - LOS	
			Existing	Existing Plus Approved
US 101, n/o Santa Barbara Road	4 (a)	80,000	44,000 - C	46,000 - C
US 101, Santa Barbara Road - SR-58	4 (a)	80,000	41,400 - B	44,100 - C
US 101, s/o SR-58	4 (a)	80,000	43,800 - C	46,800 - C
Santa Barbara Rd, US 101 NB Ramps-El Camino Real	2 (b)	18,000	7,300 - A	10,700 - A
El Camino Real, s/o Santa Barbara Rd.	2 (c)	11,250	6,100 - B	6,800 - C
El Camino Real, n/o Project Access Road	2 (c)	11,250	3,800 - A	4,300 - A
El Camino Real, s/o Project Access Road	2 (c)	11,250	3,700 - A	4,200 - A
El Camino Real, n/o SR-58	2 (c)	11,250	4,100 - A	4,600 - A
SR 58, Murphy Avenue - Pinal Avenue	2 (b)	18,000	4,700 - A	6,300 - A
SR 58, El Camino Real - Pozo Road	2 (c)	11,250	2,700 - A	4,500 - A
SR 58, e/o Pozo Road	2 (c)	11,250	1,600 - A	1,900 - A
Pozo Road, s/o SR-58	2 (c)	11,250	1,100 - A	2,600 - A

(a) 4 lane freeway
(b) 2 lane arterial with left turn lanes
(c) 2 lane arterial with no left turn lanes

The roadway segment LOS analysis indicates that the existing plus approved projects daily traffic volumes on the study roadway segments will remain within acceptable limits as defined by San Luis Obispo (LOS C or better). It is again noted that traffic associated with the existing quarry operations (average) is included in the existing baseline traffic volumes (Figure 2).

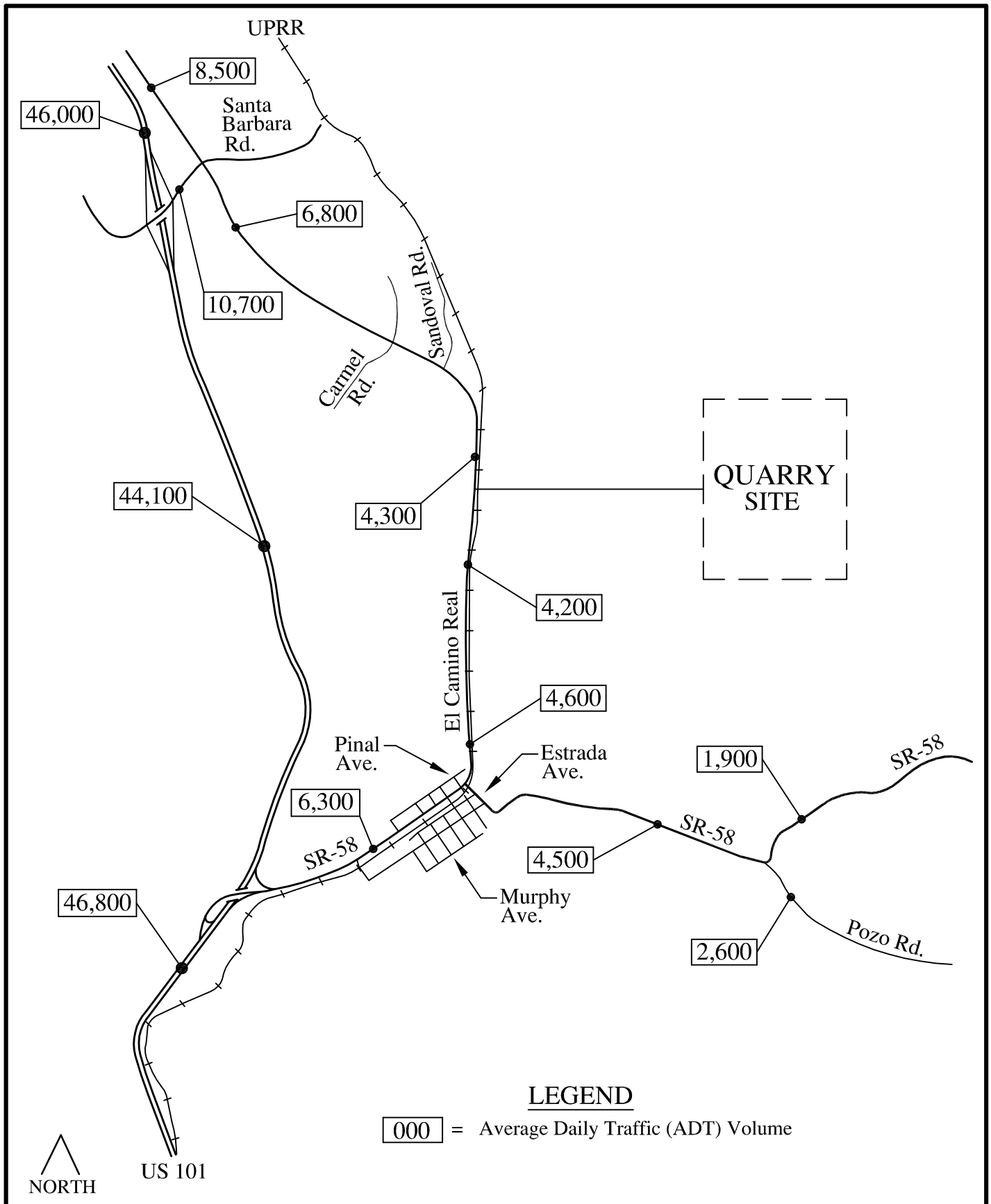

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FIGURE 4
EXISTING PLUS APPROVED PROJECTS TRAFFIC VOLUMES

IV. EXISTING PLUS APPROVED PROJECTS PLUS PROJECT CONDITIONS

The following is a description of the proposed project, an estimate of the project trip generation quantities, an assignment of the project trips to the local street system, and an evaluation of the potential project impacts on "existing plus approved projects" traffic conditions.

Project Description

As stated in the Introduction, Hanson Aggregates Mid-Pacific is applying for a modification to an existing CUP and RPA for an extension at the existing operations. The project will extend the life of quarry reserves by adding 33 acres of adjacent lands to the permitted site. It is estimated that current permitted reserves would be depleted in roughly 20 years under average conditions if additional reserves are not secured. Development of the adjacent aggregate resources will add approximately 21,500,000 tons of reserves and extend the life by an additional 38 years beyond the anticipated depletion of the currently entitled reserves. Primary access to the quarry is currently provided via a private road connection to El Camino Real about 1.8 miles north of Santa Margarita (SR 58/El Camino Real intersection). A secondary access connection to SR 58 (California Canyon Highway) is located about 1.5 miles northeast of West Pozo Road, which is restricted for emergency-only access. As previously stated, the entry gate for Santa Margarita Ranch and the quarry property is located east of the UPRR tracks. The quarry gate is located about 1.5 miles east of the entry gate. In the morning trucks will pass through the entry gate and queue along the quarry access road till the quarry gate is opened. Between the entry gate and quarry gate (approximately 1.5 miles) there is more than sufficient room to accommodate inbound trucks waiting for the quarry to open.

The existing quarry CUP has an annual production limited to 700,000 tons per year. The quarry is open 260 days per year and typically operates between 7:00 AM and 8:00 PM (Monday through Friday). The existing CUP also allows the following:

- Rock sales may operate for a maximum of 16 hours of each 24 hours beginning and ending at 6:00 AM (up to 80 days per year for a public agency contracts)
- Rock sales may start operations at 5:00 AM (70 days per year for the general public)
- Secondary plant can operate from 5:00 AM to 7:00 AM (June 15th to September 15th)

Currently, there are 15 full-time employees at the quarry and the proposed quarry extension project would not change the number of employees involved in the operations. Temporary employees are used for night time operations. The project does not propose any increase in the annual production limits or any intensification of the existing operations beyond currently permitted levels. The current quarry operations would continue as currently entitled. Per the Conditional Use Permit, shipments of material may exceed annual production limits if it can be demonstrated that some of the sales came from material that was mined in previous years.

Trip Generation and Trip Assignment

The project description material indicates that mining at the Santa Margarita Quarry began in the early 1920's. In 1981 a Reclamation Plan for the quarry was approved. The 1981 Reclamation Plan included the original 41 acre quarry and another 44 acres for future mining. Hanson Aggregates purchased the site in the 1980's and continues to operate the site. The existing CUP has a maximum limit of generating 294 truckloads per day.

Data for the existing quarry operations was provided for a 10 year period (2002-2011). The data included an hourly breakdown of the "average" (7:00 AM to 8:00 PM) and "peak" (24 hour) operating conditions. During the 10 year period, the quarry generated an average of 89 daily truckloads. It should be noted that only once during the past 3 years was the maximum limit of 294 daily truckloads experienced. A summary of the project trip generation estimates are presented in Tables 6. Copies of the hourly breakdown data are included with the Appendix Material.

The County Public Works Department and Aspen Environmental Group requested that the traffic impact analysis be updated to reflect the quarry operational data averaged between 2003 and 2012. However, as stated in the Response to Data Request letter prepared by Wallace Group (October 8, 2013) the revised 10-year average was not intended to trigger a requirement to update the various project studies to reflect the insignificant (4%) change. Therefore, the TIA Update is based on the operational data between 2002 and 2011 as evaluated in the original project TIA.

Table 6 - Project Site Trip Generation Estimates

Project Scenario	Number of Vehicle Trips				
	AM Pk. Hr.		PM Pk. Hr.		Daily
	In	Out	In	Out	
Average Quarry Operations:					
15 Full Time Employees (a)	8	3	2	6	30
Truckloads - 89 Average (b)	8	8	4	4	178
Misc. Trips (5-10 / day)	2	1	1	2	20
Totals:	18	12	7	12	228
Peak Quarry Operations:					
15 Full Time Employees (c)	8	3	2	6	50
Truckload - 294 Maximum (d)	18	18	4	4	588
Misc. Trips (10-15 / day)	3	2	2	3	30
Totals:	29	23	8	13	668
Incremental Difference (e):	+11	+11	+1	+1	+440

(a) Approximately 75% during AM peak hour and 50% during PM peak hour
(b) Approximately 9% during AM peak hour and 5% during PM peak hour
(c) Daily estimate includes temporary employees for night time operations
(d) Approximately 6% during AM peak hour and 1% during PM peak hour
(e) Incremental increase between "average" and "peak" operation levels

The data in Table 6 indicates that average quarry operations generate approximately 228 daily trips (two-way trip ends), with 30 trips during the AM peak hour (18 inbound and 12 outbound) and 19 trips during the PM peak hour (7 inbound and 12 outbound). Peak operations that reflect the maximum truckload limit (once in past 3 years) generate approximately 668 ADT, with 52 trips during the AM peak hour (29 inbound and 23 outbound) and 21 trips during the PM peak hour (8 inbound and 13 outbound). Trips associated with peak operating conditions at the quarry are spread out more evenly over a 24 hour period.

Distribution data for the truck traffic was provided by the quarry owners/operators. Trucks with an origin/destination to and from the north utilize El Camino Real and Santa Barbara Road for access to US 101, while trucks with an origin/destination to and from the south utilize El Camino Real and SR

58 through Santa Margarita for access to US 101. On an average, it is estimated that approximately 60-65% of the truck trips are to and from the north on US 101, while the remaining 35-40% are to and from the south on El Camino Real. It is anticipated that about 33-38% continue to US 101 with the remaining 2% to and from SR 58 east of Santa Margarita. The employee and miscellaneous trips are distributed more evenly to the north and south. The project traffic volumes associated with the average quarry operations are illustrated on Figure 5A and the project traffic volumes associated with the peak quarry operations are illustrated on Figure 5B.

A review of the quarry truck data and 2011 traffic count data demonstrates that the quarry truck traffic comprises approximately 85% of the truck traffic on El Camino Real north of the quarry access road and 45% of the truck traffic on El Camino Real south of the quarry access road. The quarry generated an average of approximately 94 truckloads during the 7-day count period in November 2011, which is only 5 truckloads higher than the 10 year average between 2002 and 2011.

Level of Significance Criteria

Project-specific impacts include all direct or indirect environmental effects of a project, measured as the increment of change from existing background conditions. Potentially adverse impacts are identified using "level of significance" criteria defined by San Luis Obispo County, Caltrans, and the California Environmental Quality Act (CEQA). The following criterion is used to identify potentially significant impacts associated with the proposed project:

- Substantially increased traffic relative to existing load and capacity
- Exceeded an established LOS standard (LOS C)
- Resulted in a change to air traffic patterns
- Substantially increased hazards due to design or incompatible uses;
- Results in inadequate emergency access;
- Results in inadequate parking capacity; or
- Conflicts with adopted alternative transportation policies, plans, or programs.

Typically, project-specific impacts identified as potentially significant require appropriate mitigation measures to reduce the potential impact to a "less than significant" level. In some cases mitigation measures maybe infeasible or will not reduce the impact to a less than significant level. In such a case, the public agency may grant approval with "over riding" consideration for an identified significant, unmitigatable impact, where project benefit outweighs the adverse impacts.

Existing Plus Approved Projects Plus Peak Operations Level of Service Analysis

As previously stated, mining at the Santa Margarita Quarry began in the 1920's. The traffic count data collected in November 2011 includes the trips associated with average operating conditions at the Santa Margarita Quarry. Therefore, the existing (Figure 2) and existing plus approved projects (Figure 4) traffic volumes include the trips associated with the average quarry operations shown on Figure 5A. Since the Santa Margarita Quarry Extension project does not propose any increase in the annual production limits or intensification of existing operations, the proposed project will have no measurable impact on existing or existing plus approved projects traffic conditions. However, to fully evaluate the potential project impacts on future conditions it was deemed appropriate to analyze the incremental difference between the "average" and "peak" quarry operations presented in Table 6.

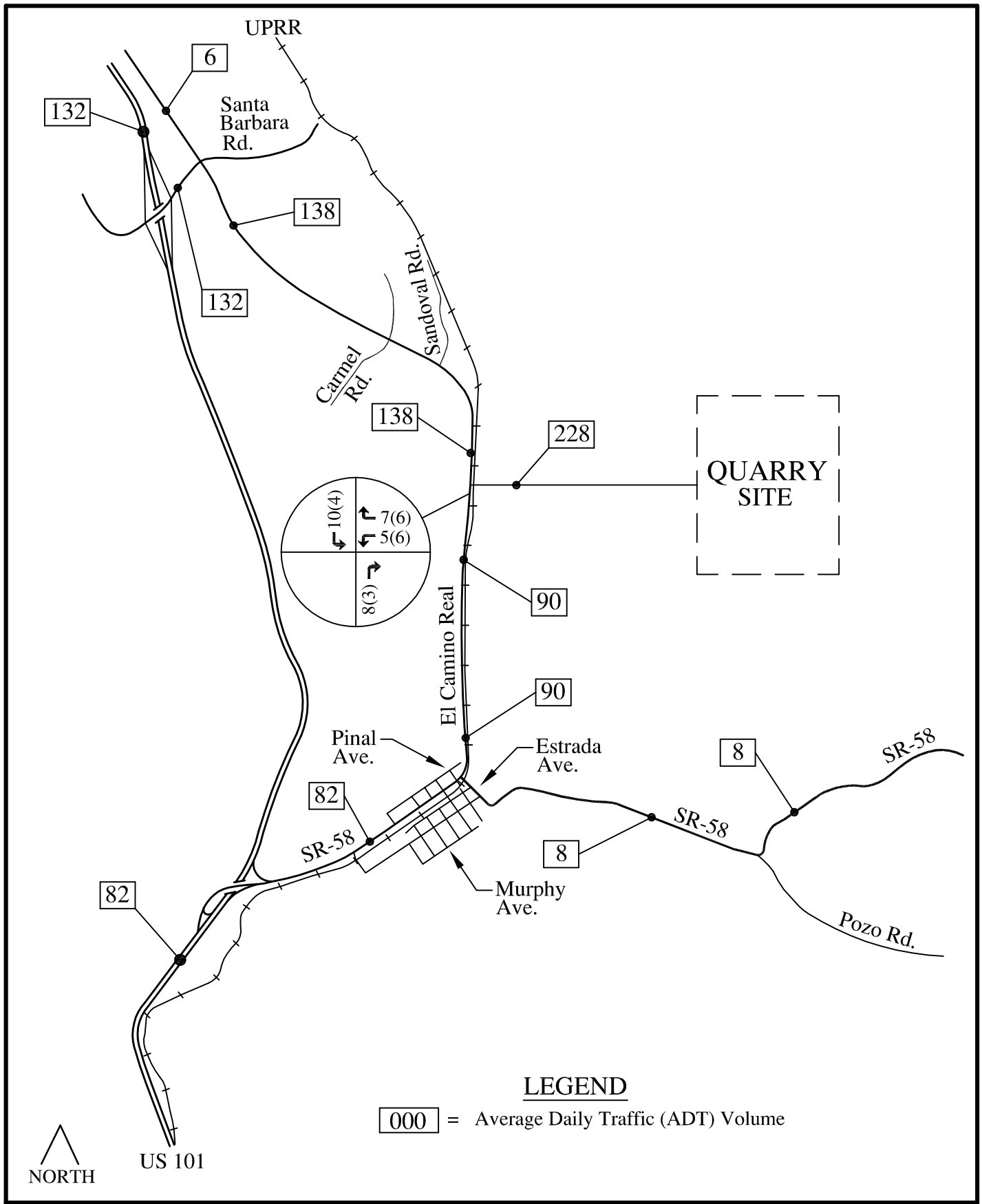

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FIGURE 5A
PROJECT
TRAFFIC VOLUMES
(AVERAGE OPERATIONS)

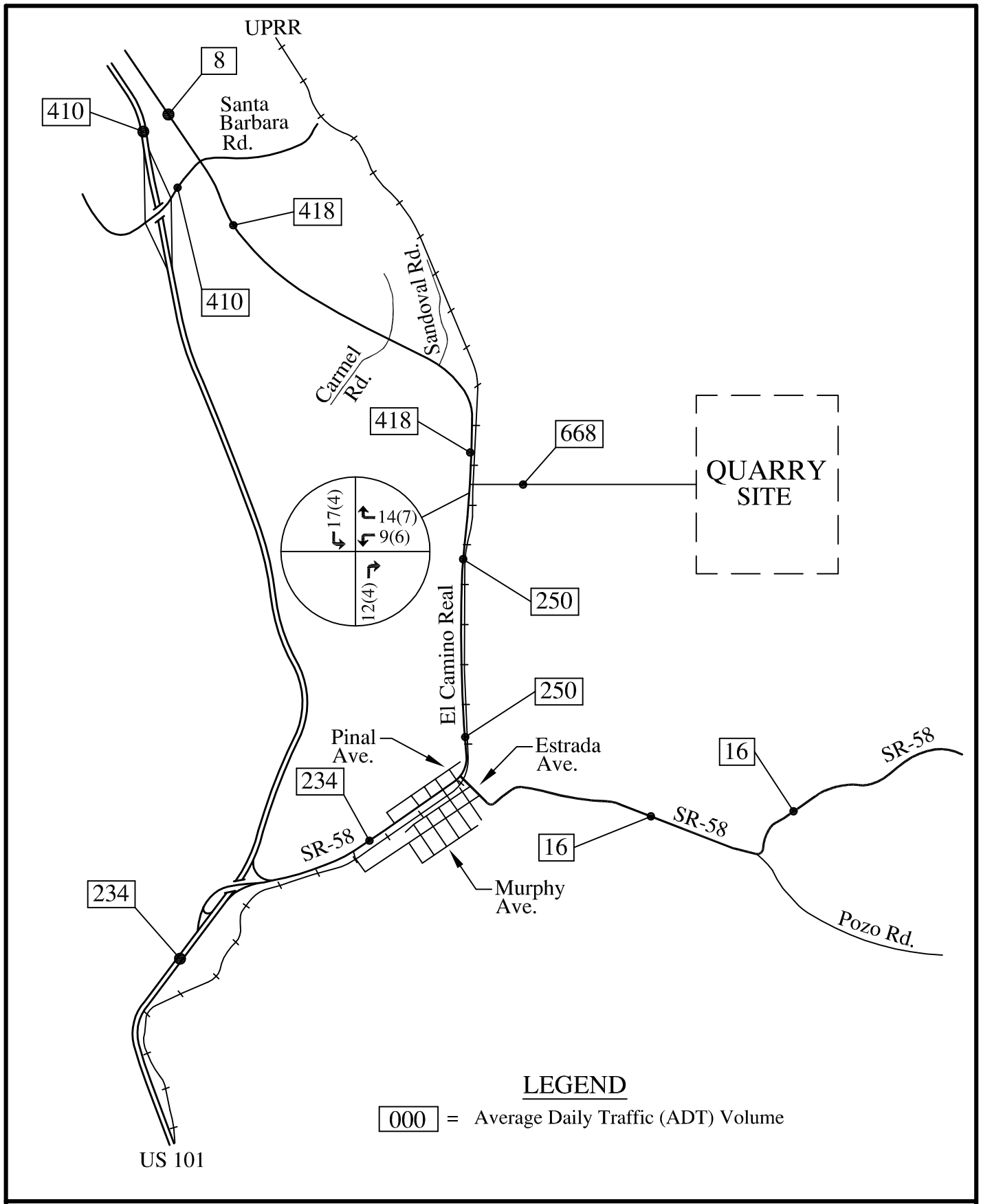

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FIGURE 5B
PROJECT TRAFFIC VOLUMES
(PEAK OPERATIONS)

Table 7 presents the results of the roadway segment LOS analysis when traffic associated with the peak quarry operations is added to the existing baseline plus approved projects traffic demands.

Table 7 - Existing Plus Approved Projects Plus Peak Quarry Operations
Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	ADT - LOS	
			With Avg. Operations	With Peak Operations
US 101, n/o Santa Barbara Road	4 (a)	80,000	46,000 - C	46,278 - C
US 101, Santa Barbara Road - SR-58	4 (a)	80,000	44,100 - C	44,100 - C
US 101, s/o SR-58	4 (a)	80,000	46,800 - C	46,952 - C
Santa Barbara Rd, US 101 NB Ramps-ECR	2 (b)	18,000	10,700 - A	10,978 - A
El Camino Real, s/o Santa Barbara Rd.	2 (c)	11,250	6,800 - C	7,080 - C
El Camino Real, n/o Project Access Road	2 (c)	11,250	4,300 - A	4,580 - A
El Camino Real, s/o Project Access Road	2 (c)	11,250	4,200 - A	4,360 - A
EL Camino Real, n/o SR-58	2 (c)	11,250	4,600 - A	4,760 - A
SR-58, Murphy Avenue - Pinal Avenue	2 (b)	18,000	6,300 - A	6,452 - A
SR-58, El Camino Real - Pozo Road	2 (c)	11,250	4,500 - A	4,508 - A
SR-58, e/o Pozo Road	2 (c)	11,250	1,900 - A	1,908 - A
Pozo Road, s/o SR-58	2 (c)	11,250	2,600 - A	2,600 - A

(a) 4 lane freeway
(b) 2 lane arterial with left turn lanes
(c) 2 lane arterial with no left turn lanes

The roadway segment LOS analysis indicates that the existing plus approved projects plus project "peak" operations daily traffic volumes on the study roadway segments are within acceptable limits as defined by San Luis Obispo County (LOS C or better). The maximum of 294 daily truckloads is limited to no more than 80 days per year, and only once during the last 3 years was the limit experienced. In addition, as previously stated the proposed project will not increase the existing annual production limits or intensification of operations beyond currently permitted levels, and thus will not generate any new vehicle trips beyond what is approved as documented in Table 6 (shown on Figures 5A and 5B). Therefore, it is concluded that the proposed project will not have a potentially significant impact on the existing plus approved projects daily traffic operations.

Project Access and Safety

The evaluation of potential project impacts includes a review of access on El Camino Real. El Camino Real adjacent to the existing quarry access road has a relatively straight horizontal and vertical alignment. Looking north and south along El Camino Real from the existing quarry access road the vertical and horizontal line of sight is relatively unrestricted. The tangent (straight) section of El Camino Real north of the quarry access road is approximately one-half mile in length. About 600' south of the quarry access road El Camino Real curves slightly to the west.

Sight Distance

A review of sight distance was conducted using criteria in the Caltrans Highway Design Manual (HDM, Chapters 200 and 400). Stopping sight distance is the minimum distance required by a driver to bring a vehicle to a complete stop after an object on the roadway has become visible (ie: a vehicle or truck). Corner sight distance is the minimum time required for a waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left or right, without requiring through traffic to radically alter their speed. The Caltrans HDM states that at private road intersections and rural driveways the minimum corner sight distance shall be equal to the minimum stopping sight distance (Topic 405.1-2c). Stopping sight distance for a vehicle traveling southbound on El Camino Real approaching the quarry access road is adequate for at least 75 mph (1,000'+). Stopping sight distance for a vehicle traveling northbound on El Camino Real approaching the quarry access road is adequate for approximately 70-75 mph (800'+/-). A sampling of vehicle speeds on El Camino Real was collected during "free-flowing" conditions adjacent to the existing quarry access road. The data indicates that average vehicle speeds in both the north and southbound direction are approximately 55-56 mph. A copy of the vehicle speed data is included with the Appendix Material. The line of sight and availability of sight distance from the quarry access road complies with the County's standard for Intersection & Driveway Sight Distance (Drawing No: A-5a).

Though an evaluation of corner sight distance is not directly applicable to the quarry access road, it was reviewed to evaluate if vehicles exiting the quarry have a reasonable amount of visibility of vehicles traveling on El Camino Real. Since the line of sight looking north from the quarry access road is unrestricted, the evaluation of corner sight distance focused on the ability of exiting vehicles looking south to see northbound traffic and have adequate time to enter El Camino Real. The Caltrans HDM uses a 7.5 second criteria for evaluating the adequacy of corner sight distance. A sampling of corner sight distance was recorded looking south along El Camino Real from the quarry access road per the Caltrans guidelines (15' east of northbound shoulder-bike lane stripe). An average of approximately 13 seconds was observed looking south along El Camino Real. This demonstrates that vehicles exiting the quarry have sufficient sight distance of approaching vehicles on El Camino Real. In addition, trucks exiting the quarry stop before the UPRR tracks (approximately 80' east of northbound shoulder-bike lane stripe), which increases the driver's view of approaching northbound vehicles on El Camino Real. Copies of the Caltrans HDM sight distance criteria and corner sight distance data are included with the Appendix Material.

El Camino Real

County Public Works Department and Aspen Environmental Group requested that the traffic analysis provide a discussion of the potential need to widen the southbound shoulder on El Camino Real to 8' (200' north and south of the quarry access road). Currently the southbound lane has a width of approximately 11-11.5', with a 4-5' shoulder. The County Public Works standard for new roadway construction requires a 12' travel lane with an 8' shoulder (Drawing No: A-1h). Typically, if a project proposes any roadway improvements within the public right-of-way (ROW) the project would be responsible to adhere to current County design standards.

The proposed project will not generate any new vehicle trips and does not proposed any roadway improvements along El Camino Real. Currently, large trucks exiting the quarry with a destination to the south will occasionally swing wide to minimize the trailer tracking and amount of time the trailer is crossing the northbound lane. Though the existing shoulder condition may be attributable to existing truck traffic associated with the quarry operations, this traffic and any resulting wear is part of the baseline condition and not an impact associated with the proposed project. Maintenance of

the roadway is typically a function of local roadway maintenance and improvements that are funded through property and/or other County and user tax revenue sources.

The County and Aspen Environmental Group also requested that the traffic analysis provide an evaluation of the need for a southbound left turn lane on El Camino Real at existing quarry access road. The following is the analysis of turn lane warrants included in the original project TIA. The evaluation of turn lane warrant criteria was conducted using material published in "A Policy on Geometric Design of Highways and Streets" (AASHTO) and "Guidelines for the Preparation of Traffic Impact Studies" (Caltrans, Guidelines for Reconstruction of Intersections, Aug. 1985). Left turn lane warrant criteria (graph) is provided for left turning volumes varying from 5% to 40% of the total approach traffic volumes. The left turn lane warrant criteria considers the advancing peak hour volume, percent left turns, opposing peak hour volumes and vehicle speeds. The right turn lane warrant criteria (graph) is provided for 2 and 4 lane roads, and considers the total approaching peak hour volume and number of right turns.

A review of the existing peak hour traffic volumes (collected November 1st through 7th, 2011) on El Camino Real and turning movements at the quarry access road was conducted to evaluate the left and right lane channelization warrants. The southbound left turns to the quarry access road comprise a maximum of 11-12% of the total approaching weekday AM peak hour traffic volume under average operating conditions (10x1.9=19 vph/162 vph). This assumes a passenger car equivalent (PCE) factor of 1.9 for the percentage of large trucks traveling southbound on El Camino Real entering the quarry access road. A review of the new count data on El Camino demonstrates that the total southbound approaching (advancing) volume during the AM peak hour is 182 vph or less, while the total northbound approaching (opposing) volume during the AM peak hour is 152 vph or less. During the PM peak hour the southbound left turns to the quarry comprise less than 5% of the total approaching weekday AM peak hour traffic volume under average operating conditions. Peak hour traffic demands of this magnitude are well below the minimum volume warrant for a separate left turn lane on the southbound approach of El Camino Real at the quarry access road. The analysis demonstrates that an exclusive left turn lane on the southbound approach of El Camino Real is not warranted at the quarry access road under existing conditions.

The development of approved projects within this portion of the County is estimated to increase background traffic demands by about 13-14% along the section of El Camino Real adjacent to the quarry. Total north and southbound peak hour traffic volumes approaching the quarry access road would be 210-215 vph or less. Therefore, the analysis also demonstrates that a separate left turn lane on the southbound approach of El Camino Real at the quarry access road will not be warranted under the existing plus approved projects scenario. A copy of the left turn lane warrant graph is included with the Appendix Material.

The northbound right turn peak hour volume to the quarry is less than 10 vph during both the AM and PM peak hours as associated with the average operations. In addition, the total approaching northbound volumes on El Camino Real are also less than 200 vph during both the AM and PM peak hour periods under existing conditions. Total northbound peak hour traffic volumes approaching the quarry access road under the existing plus approved projects scenario would be 210-215 vph or less. Total northbound approaching and right turn demands of this magnitude are well below the minimum volume warrant criteria for a separate right turn lane on El Camino Real at the quarry access road. A copy of the right turn lane warrant graph is included with the Appendix Material.

As discussed in the original project TIA, at the County's pre-application meeting it was mentioned to the project team that the County standard deceleration and acceleration tapers for a rural driveway would be required. The County and Aspen Environmental Group requested that the project reconstruct the project access driveway approach on El Camino Real per the current County standard (Drawing No: B-1e). The County standard includes typical 75' deceleration and acceleration tapers for traffic entering and exiting the project access road (driveway). A review of an aerial photograph indicates that there may be sufficient pavement already in place to accommodate a 75' deceleration taper with some minor striping improvements. However, minor roadway improvements may be necessary to provide a 75' acceleration taper. Design of these improvements is outside the scope of the TIA Update. A copy of the County's Rural Driveway Approach standard (Drawing No: B-1e) is included with the Appendix Material.

Traffic Accident Data

As discussed in Section II - Existing Conditions under "Traffic Accident Data" (Page 8 & 9), there were 96 reported accidents during the 6 year period between 2005 and 2010. Approximately 28% only involved a single vehicle, 11% were DUI related, and 22% were caused by a vehicle traveling at an unsafe speed, and about 10% involved a large truck (6 north of quarry access road and 4 south of quarry access road). However, there were no reported accidents at the El Camino Real and quarry access road intersection. The data also demonstrates that the existing accident rates exceed the State average rates on El Camino Road between the quarry access road and Santa Barbara Road, and through Santa Margarita (Estrada Avenue to Murphy Avenue). Separate left turn lanes recently constructed on El Camino Real at Carmel Road have improved safety and reduced the accident potential near this intersection.

Various primary collision factors are attributable to the accidents along El Camino Real through Santa Margarita (Estrada Avenue to Murphy Avenue). Only 5 of the 9 accidents occurred during daylight hours (56%). Three (3) of the total accidents involved a vehicle that hit a parked car (33%), which includes the only 2 accidents that involved a truck. Three (3) of the accidents involved only a single vehicle (33%), with 1 accident caused by an animal entering the roadway and 1 accident involving a DUI. The remaining 3 accidents involved a vehicle performing an improper left turn or U-turn movement (33%). None of the reported accidents involved a pedestrian. Accident rates on low volume roadway segments can exceed the State average rates with only 1-2 accidents per year. In such cases, a detailed review of accident data may provide a better identification of safety related issues and potential safety improvements in lieu of just looking at accident rates. A review of the accident data did not identify any correctable accident patterns.

Santa Margarita

The County Public Works Department and Aspen Environmental Group requested an assessment of the need for "fair-share" mitigation for safety improvements at the El Camino Real/Estrada Avenue intersection and along El Camino Real between Estrada Avenue and Murphy Avenue. The "fair-share" mitigation for safety improvements at the El Camino Real/Estrada Avenue intersection would include the preparation of road widening and traffic signal plans for future improvements (to be constructed by others). The "fair-share" mitigation for safety improvements along El Camino Real (Estrada Avenue to Murphy Avenue) as identified by the County would include the construction of a pedestrian refuge island at the Encina Avenue intersection. As previously stated, the review of accident data did not identify any correctable accident patterns along the segment of El Camino Real between Estrada Avenue and Murphy Avenue.

Future roadway widening and traffic signal improvements at the El Camino Real /Estrada Avenue intersection will be triggered by increased traffic demands associated with new development. In a similar manner, any future safety improvements that may be warranted on El Camino Real at the Encina Avenue intersection (ie: a flashing beacon, LED crosswalk warning system) should be based on a detailed evaluation of safety, including but not limited to, vehicle speeds, vehicle gaps, etc. Again, the proposed project evaluated in this TIA Update will not generate any new daily or peak hour vehicle trips. Therefore, the proposed project will have no measurable or adverse safety impacts at the El Camino Real/Estrada Avenue intersection or along El Camino Real through Santa Margarita as defined by CEQA.

It should be noted that the installation of a pedestrian refuge should be considered with caution, as the placement of a small raised island in the middle of El Camino Real may create a false sense of security for pedestrian traffic and/or a safety hazard for vehicular traffic (especially at night).

Based on a review of project access and safety issues, it is concluded that the proposed project will not have a potentially significant impact on the existing plus approved projects traffic operations.

V. CUMULATIVE CONDITIONS

An evaluation of "baseline" cumulative conditions is an analysis of operations resulting from the future development of approved and pending projects in this portion of the County. The cumulative scenario represents future traffic conditions over the next 20-25 years. A discussion regarding current approved projects and related trip generation is presented in the Existing plus Approved Projects Conditions section. Pending cumulative projects are those projects that have submitted a development application, but have not been approved or received any entitlements from the County. County staff provided a list of currently pending cumulative projects. Information on the County's website was also researched. County staff did not identify any additional pending projects other than the Las Pilitas (Oster) Quarry project that should be included in the cumulative analysis for the project TIA Update. The general locations of the cumulative projects are shown on Figure 6.

Trip Generation Estimates

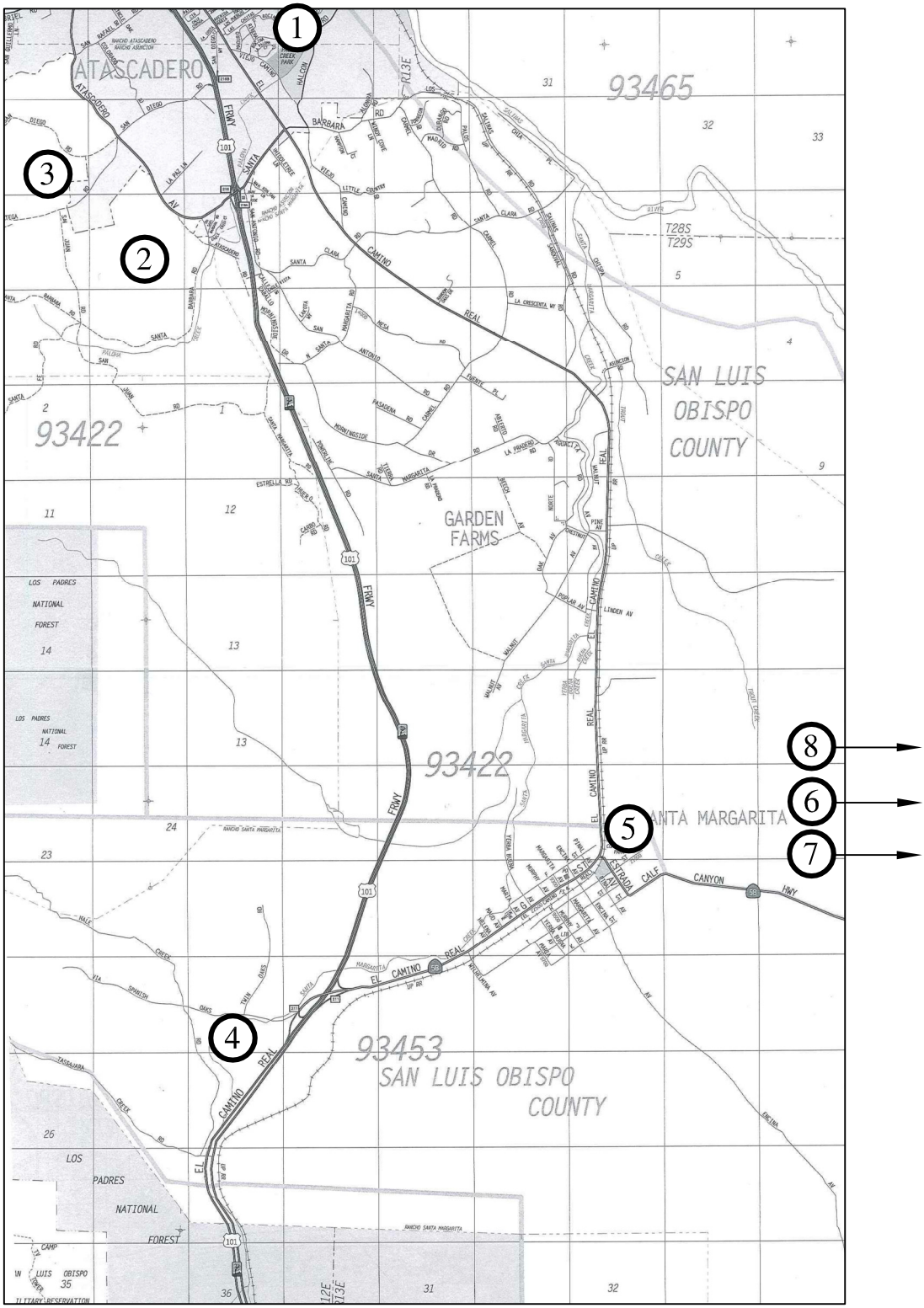
The trip generation estimates for the cumulative pending projects were derived using the ITE trip generation rates contained in Table 3. Data from other project traffic reports is also referenced when applicable. The cumulative projects trip generation estimates are displayed in Table 8.

Table 8 - Cumulative Projects Trip Generation Estimates

Project No.	ITE Code - Land Use	Number of Vehicle Trips				
		AM Peak Hour		PM Peak Hour		Daily
		In	Out	In	Out	
1	Halcon GPA - 49 SFDU	9	27	31	18	468
2	Baron GPA - 8 SFDU	2	4	5	3	76
3	Eagle Ranch Development (a)	234	464	578	376	10,191
4	Hendrix MUP - Special Event (b)	N/A	N/A	N/A	N/A	50
5	Cully Parcel - 4 SFDU	1	2	3	1	38
6	Wonsley Parcel - 2 SFDU	0	1	1	1	20
7	Church of Nazarene - Org. Camp (c)	N/A	N/A	N/A	N/A	50
8	Las Pilitas Rock Quarry (d)	24	19	15	20	283
	Totals:	270	517	633	419	11,176

(a) Trip generation from Environmental Constraint Analysis.
(b) 28 Special Events per year (average attendance 200 people).
(c) Expansion of camp from 120 to 250 campers.
(d) Las Pilitas Rock Quarry Traffic Impact Study (ATE, April 24, 2012)

The data in Table 8 indicates that the pending cumulative projects could generate an additional 11,176 daily trips (two-way trip ends); with 787 trips during the AM peak hour (270 inbound and 517 outbound) and 1,052 trips during the PM peak hour (633 inbound and 419 outbound).



LEGEND

NORTH

(0) = Cumulative Project No.
(See Table 8)

PINNACLE TRAFFIC ENGINEERING

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FIGURE 6
CUMULATIVE PROJECTS LOCATION MAP

Trip Assignment and Baseline Cumulative Traffic Volumes

The trips associated with each cumulative project were assigned to the local street system based on a review of local traffic patterns and knowledge of local demographics, or the actual distribution of trips included in the appropriate traffic analysis report (ie: Eagle Ranch and Las Pilitas Quarry). The trips associated with the pending cumulative projects were combined with the existing plus approved projects traffic volumes shown on Figure 4. It should be noted that the construction trips associated with the Topaz Solar Farm and California Valley Solar Ranch projects are not included in the cumulative scenario as these projects will be completed prior to the timeframe representing cumulative conditions.

As stated in the project description material, it is estimated that current permitted reserves at the existing quarry could be depleted in roughly 20 years under average operating conditions. However, the existing quarry traffic will not increase or intensify under the proposed project, and is considered part of the existing baseline conditions and under CEQA would not be considered new traffic under cumulative or other future scenarios. The baseline cumulative traffic volumes are illustrated on Figure 7, which include traffic associated with the existing quarry average operations. The cumulative baseline daily traffic volumes also include the adjustment of existing volumes to reflect the 2012 traffic count data published by Caltrans.

Baseline Cumulative and Cumulative Plus Peak Operations Level of Service Analysis

Similar to the analysis conducted for the existing and existing plus approved projects conditions, the roadway segment LOS values were calculated for the baseline cumulative traffic conditions. As previously stated, the project does not propose any increase in the annual production limits or intensification of existing operations, and therefore, the proposed project will not generate any new vehicle trips or have a measurable impact on future traffic operations. Therefore, in order to fully evaluate the potential project impacts on future conditions it was deemed appropriate to analyze the incremental difference between the “average” and “peak” quarry operations (see Table 6). Table 9 presents the results of the roadway segment LOS analysis for baseline cumulative conditions (including average quarry traffic) and when traffic associated with the peak quarry operations is added to the baseline cumulative traffic demands.

The roadway segment analysis indicates that the baseline cumulative and cumulative plus project (peak operations) daily traffic volumes on the study roadway segments will remain within acceptable limits (LOS C or better). Again, the maximum of 294 daily truckloads is limited to no more than 80 days per year, and only once during the last 3 years was the limit experienced. Therefore, it is concluded that the proposed project will not have a potentially significant impact on cumulative daily traffic operations.

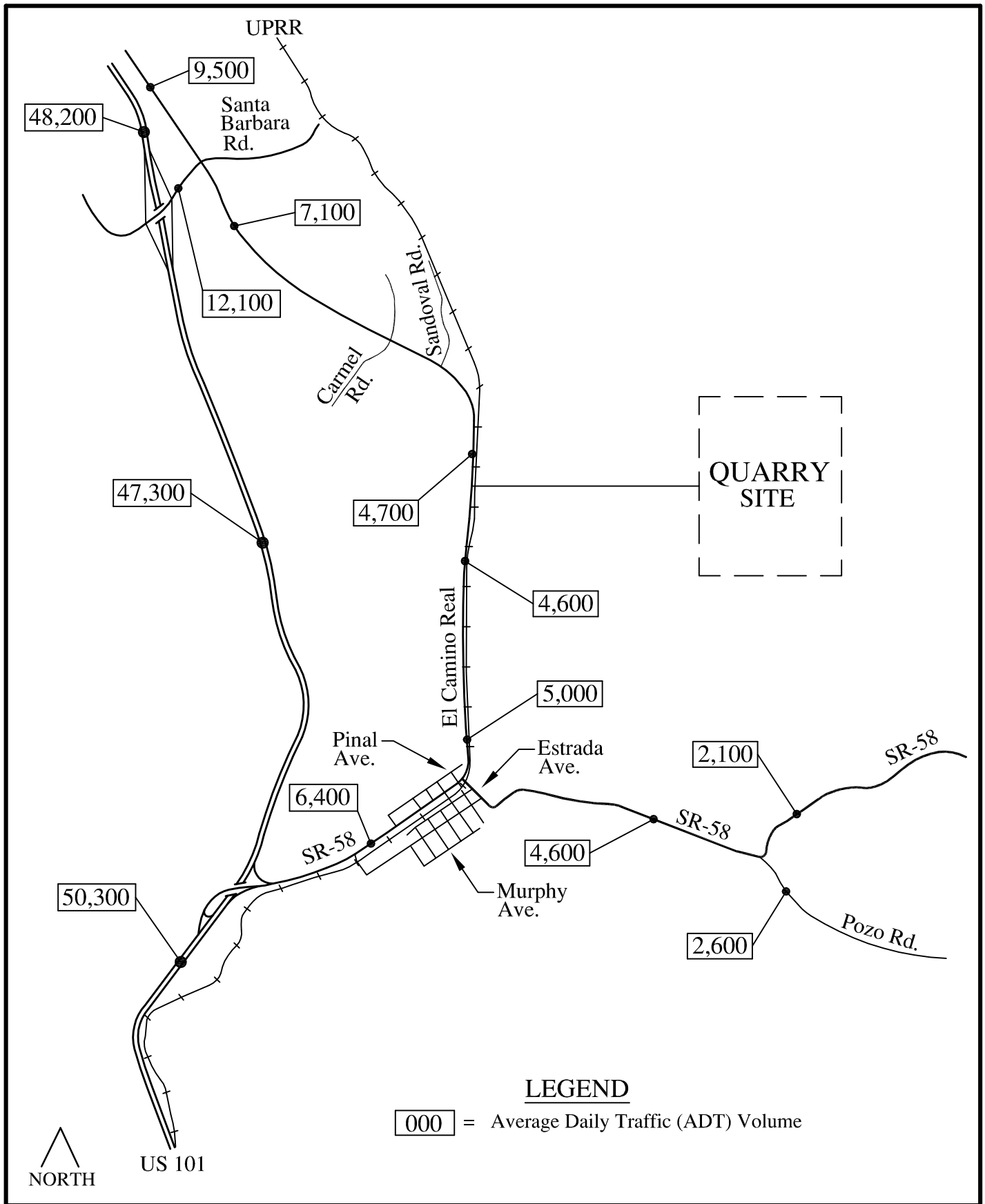

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FIGURE 7
BASELINE CUMULATIVE TRAFFIC VOLUMES

Table 9 - Baseline Cumulative and Cumulative Plus Peak Quarry Operations
Roadway Segment LOS Analysis

Roadway Segment	No. of Lanes	LOS E Capacity	Baseline ADT - LOS	
			With Avg. Operations	With Peak Operations
US 101, n/o Santa Barbara Road	4 (a)	80,000	48,200 - C	48,478 - C
US 101, Santa Barbara Road - SR-58	4 (a)	80,000	47,300 - C	47,300 - C
US 101, s/o SR-58	4 (a)	80,000	50,300 - C	50,452 - C
Santa Barbara Rd, US 101 NB Ramps-ECR	2 (b)	18,000	12,100 - B	12,378 - B
El Camino Real, s/o Santa Barbara Rd.	2 (c)	11,250	7,100 - C	7,380 - C
El Camino Real, n/o Project Access Road	2 (c)	11,250	4,700 - A	4,980 - A
El Camino Real, s/o Project Access Road	2 (c)	11,250	4,600 - A	4,760 - A
EL Camino Real, n/o SR-58	2 (c)	11,250	5,000 - A	5,160 - B
SR-58, Murphy Avenue - Pinal Avenue	2 (b)	18,000	6,400 - A	6,552 - A
SR-58, El Camino Real - Pozo Road	2 (c)	11,250	4,600 - A	4,608 - A
SR-58, e/o Pozo Road	2 (c)	11,250	2,100 - A	2,108 - A
Pozo Road, s/o SR-58	2 (c)	11,250	2,600 - A	2,600 - A

(a) 4 lane freeway
(b) 2 lane arterial with left turn lanes
(c) 2 lane arterial with no left turn lanes

Project Access and Safety

The cumulative analysis demonstrates that daily traffic demands along El Camino Real adjacent to the existing quarry access road are projected to increase by 20-25% over the next 20-25 years. The evaluation of project access and safety in Section IV - Existing Plus Approved Projects Plus Project Conditions under "Sight Distance" (Page 21) concluded that sight distance for traffic using the quarry access road complies with local County and State (Caltrans) standards. A discussion is also provided in Section IV - Existing Plus Approved Projects Plus Project Conditions under "El Camino Real" (Pages 21-23) regarding the need to widen the southbound shoulder on El Camino Real adjacent to the quarry access road (as requested by the County). The discussion concluded that widening the southbound lane is not warranted by impacts resulting from the proposed project, as the project will not generate any new vehicle trips.

The evaluation of turn lane warrant criteria presented under the Existing Plus Approved Projects Plus Project Conditions indicates that peak hour turning movements at the quarry access road intersection will not exceed the minimum volume warrant for a separate left turn lane on the southbound approach of El Camino Real or a right turn lane on the northbound approach. The southbound left turns to the quarry access road will comprise about 8-9% of the total cumulative approaching weekday AM peak hour traffic volume under average operating conditions. Total cumulative north and southbound peak hour traffic volumes approaching the quarry access road would be 225-230 vph or less. Cumulative peak hour traffic demands of this magnitude are below the minimum volume (+/- 300 vph) warranting a separate left turn lane on the southbound approach of El Camino Real at the quarry access road. Cumulative peak hour demands on the northbound approach of El Camino Real at the quarry access road are also below the minimum volume (+500 vph) warranting a separate right turn lane. The analysis demonstrates that a separate left turn lane on

the southbound approach of El Camino Real or right turn lane on the northbound approach will not be warranted at the quarry access road under cumulative conditions. A copy of the left turn lane warrant graph is included with the Appendix Material.

The evaluation of data in Section IV - Existing Plus Approved Projects Plus Project Conditions under "Traffic Accident Data" (Page 23) identified 96 accidents along El Camino Real (2005 to 2010). Only 10% involved a large truck and no accidents occurred at the El Camino Real and quarry access road intersection. A review of the data did not identify any correctable accident patterns.

A discussion of "fair-share" mitigation for safety improvements is presented in Section IV - Existing Plus Approved Projects Plus Project Conditions under "Santa Margarita" (Page 23 & 24). The proposed project evaluated in this TIA Update will not generate any new daily or peak hour vehicle trips. Therefore, the proposed project will have no measurable or adverse safety impacts at the El Camino Real/Estrada Avenue intersection or along El Camino Real through Santa Margarita as defined by CEQA.

Based on a review of project access and safety issues, it is concluded that the proposed project will not have a potentially significant impact on the cumulative traffic operations under CEQA "level of significance" criteria.

VI. MITIGATION MEASURES

The following mitigation measures are presented for potentially significant impacts identified under the existing plus approved projects and cumulative traffic conditions.

Existing Plus Approved Projects Plus Peak Operations

The existing and existing plus approved projects traffic volumes include the trips associated with the existing average quarry operations. Since the project does not propose any increase in the annual production limits or intensification of the existing operations, the proposed project will not generate any new vehicle trips or create any new, adverse impacts on existing or existing plus approved projects traffic conditions. However, to fully evaluate the potential project impacts on future conditions it was deemed appropriate to analyze the incremental difference between the "average" and "peak" operations. The analysis demonstrated that daily traffic volumes on the study roadway segments are within acceptable limits as defined by San Luis Obispo County. It also was noted that the maximum of 294 daily truckloads is limited to no more than 80 days per year, and only once during the last 3 years was the limit experienced. Therefore, it was concluded that the proposed project will not have a potentially significant impact on the existing plus approved projects daily or peak hour traffic operations. No mitigation measures are required for the existing plus approved projects scenario.

Baseline Cumulative and Cumulative Plus Peak Operations

Since the project does not propose any increase in the annual production limits or intensification of the existing operations, the proposed project will not generate any new vehicle trips or have a measurable impact on baseline cumulative traffic conditions. Similar to the analysis conducted for the existing plus approved projects scenario, an evaluation of baseline cumulative conditions was also conducted to analyze the incremental difference between the "average" and "peak" operations. The analysis demonstrated that daily traffic volumes on the study roadway segments would remain within acceptable limits.

The evaluation of project access and safety concluded that a southbound left turn lane would not be warranted on El Camino Real at the quarry access road under cumulative conditions. It is estimated that the quarry truck traffic comprises about 85% of the truck traffic on El Camino Real north of the quarry access road and 45% of the truck traffic on El Camino Real south of the quarry access road. Ten percent (10%) of the total reported accidents involved a large truck (6 year period). Information in the reference documents and SLOCOG RTP does not include any future planned improvements along the local segments of El Camino Real. It appears that several options are available to reduce the potential for future accidents on El Camino Real north of the quarry access road and through Santa Margarita. These include, for example, the installation of a radar speed readout signs north and south of the horizontal curve (north of the quarry access road). The development of future projects (ie: Approved Project #4-9, see Figure 3 and Table 4) along this segment of El Camino Real should address the local access issues and contribute to the potential solutions (ie: providing left turn lanes at key intersections).

Existing accident rates exceed the State average rates on El Camino Real through Santa Margarita (Estrada Avenue to Murphy Avenue). Information in the various reference documents has identified that signal warrants will be satisfied under the year 2030 conditions at the El Camino Real/Estrada

Avenue intersection. The installation of traffic signal control at this intersection could potentially reduce the existing accident rate along the segment of El Camino Real through Santa Margarita. The future roadway widening and signal improvements will be triggered by increased traffic demands associated with background growth and new development (ie: pending cumulative projects, see Table 8). Review of the data did not identify any correctable accident patterns through Santa Margarita. As previously suggested, the County may consider improving street lighting levels along this segment of El Camino Real to reduce the accident potential during dark nighttime conditions.

Since the proposed project will not generate any new daily or peak hour vehicle trips or have a measurable impact, it was concluded that the proposed project will not have a potentially significant adverse impact on the cumulative plus project traffic operations. Therefore, no mitigation measures are required for the baseline cumulative plus project scenario.

END