Appendix J
Vehicle Miles Traveled Analysis

LINSCOTT LAW & GREENSPAN
engineers

VEHICLE MILES TRAVELED ANALYSIS

PACIFIC PROJECT

San Marcos, California
January 26, 2023

LLG Ref. 3-20-3279

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EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Vehicle Miles Traveled (VMT) Analysis to determine and evaluate the CEQA transportation impacts of the proposed Pacific project (proposed Project). The Project site is located at the northwest corner of the Linda Vista Drive / Las Posas Road intersection in the City of San Marcos. The Project site is currently undeveloped.

The Project consists of 449 residential units, including a mix of apartments within a five-story podium building, three-story rowhomes, three-story villas, and affordable flats within a four-story building on approximately 15.09 acres within the 33.2-acre Project site. The Project proposes a General Plan Amendment, Rezone, Specific Plan, Tentative Map, and Multi-Family Site Development Plan. The General Plan Amendment and Rezone would change the General Plan designation and Zoning from Industrial (I) to Specific Plan Area (SPA).

The Project is calculated to generate a total of 2,694 ADT with 216 AM peak hour trips (43 inbound / 173 outbound) and 242 PM peak hour trips (169 inbound and 73 outbound).

The SANDAG Series 13 Base Year 2012 regional travel demand model was customized with the Project land uses and used to calculate the Project's VMT per Resident. Based on the results, the Project's VMT per Resident is less than 85% (62%) of the regional average and therefore results in no significant CEQA transportation impact.

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PACIFIC PROJECT

San Marcos, California
January 26, 2023

1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Transportation Impact Analysis (TIA) for the proposed Pacific project (proposed Project) located at the northwest corner of the Linda Vista Drive / Las Posas Road intersection in the City of San Marcos.

Transportation impact analyses within the City of San Marcos includes two sets of requirements:

- **CEQA Analysis** primarily consisting of vehicle miles traveled (VMT) analysis.
- **Non-CEQA Local Transportation Analysis** to evaluate the effects of a development project on the circulation network.

Non-CEQA Local Transportation Analysis is provided under separate cover.

The following items are included in this transportation study:

- Project Description
- VMT Analysis Approach and Methodology
- VMT Analysis
- Conclusions

2.0 PROJECT DESCRIPTION

2.1 Project Location

The 33.2-acre project site is an infill site located in the western portion of the City of San Marcos (City), at the northwest corner of Las Posas Road and Linda Vista Drive, and comprises Assessor's Parcel Numbers (APNs) 219-222-01, 219-222-02, 219-222-03, and 219-222-04. La Mirada Road abuts the site's northern boundary, while South Pacific Street abuts the property's western boundary. The Grand Plaza shopping center is located directly across Las Posas Road to the east. Light industrial uses are adjacent to the sites northern, southern, and western boundary, and Bradley Park is located across from the sites southwestern corner. Single- and multi-family residential uses are located to the west and south of Bradley Park.

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

2.2 Project Description

The project consists of 449 residential units, including a mix of apartments, rowhomes, villas, and affordable flats on approximately 15.09 acres of the 33.2-acre project site. Proposed residential units would include a mix of apartments within a five-story podium building, three-story rowhomes, three-story villas, and affordable flats within a four-story building. The project includes a total of 927 parking spaces and 134,985 square feet of common open space area. 68 of the 449 total units (15 percent of the total) would be designated as deed-restricted affordable units (alternatively, the project reserves the option to contribute to the affordable housing fund by paying the in-lieu fee).

The proposed project also includes landscaping, bio-retention areas, and circulation improvements. The remaining approximately 17.94 acres of the 33.2-acre project site would be preserved and restored as open space and habitat area. The proposed project would have a density of approximately 13.5 dwelling units per acre, including the open space and habitat area.

The project proposes a General Plan Amendment, Rezone, Specific Plan, Tentative Map, and Multi-Family Site Development Plan. The General Plan Amendment and Rezone would change the General Plan designation and Zoning from Industrial (I) to Specific Plan Area (SPA). The Specific Plan has been prepared with the intent to provide a comprehensive plan to ensure the efficient development of a new residential community. The Specific Plan serves as both a policy document and a regulatory document for the systematic implementation of the policies and goals of the General Plan. The Tentative Map presents specific lot configurations for the site. The Multi-Family Site Development Plan will configure the site for multi-family dwelling units, street configuration, infrastructure, recreational open space, and private open space.

As part of the project, additional pedestrian connectivity would be provided along three of the adjacent street frontages. The project would provide a 6-foot sidewalk and Class II buffered bike lane along the project's frontage on Pacific Street; the project would provide a 12-foot urban trail (shared use path) along the project's frontage on Linda Vista Drive; and the project would also provide a 12-foot urban trail (shared use path) along the project's frontage on La Mirada Drive. In addition to the proposed sidewalk and trail connections, the project would add a bus stop and shelter with a bus turnout along South Las Posas Road adjacent to the development area and would install a

4-way traffic signal at the intersection of Linda Vista Drive and Pacific Street. Furthermore, the project would upsize approximately 1,458-feet of existing water pipe from 8-inches to 12-inches and would convert approximately 1,400-feet of existing overhead power lines to underground along La Mirada.

The proposed project would be accessible from three points on La Mirada Drive, one emergency access only point on S. Las Posas Road, and two access points on Linda Vista Drive. The three access points on La Mirada Drive would serve the residences of the rowhomes, villas, and apartments, and the two access points on Linda Vista drive would serve the residences of the affordable flats.

Figure 2–3 shows the conceptual site plan for the Project.

2.3 Project Trip Generation

As described in *Section 2.2*, the proposed Project would provide a maximum of 449 residential dwelling units.

The following is a discussion of the traffic expected to be generated by the Project.

2.3.1 *Trip Rates*

Trip generation for Project multi-family housing was estimated using trip rates from SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*. The trip generation rate for "Apartment (or any multi-family units more than 20 DU/acre)" was used based on the proposed density.

SANDAG provides for a 5% daily trip reduction for land uses with transit access or near transit stations accessible within ¼ mile. The site is located adjacent to transit service with stops located near both the north and south ends of the site along Las Posas Road. The Project will also upgrade the existing stop along its frontage with enhanced amenities and include clear and direct access to bus stops in the site design. To provide a conservative analysis, however, no transit trip reduction was applied to the trip generation for this analysis.

2.3.2 *Project Trips*

Table 2–1 tabulates the total Project traffic generation. The Project is calculated to generate a total of 2,694 ADT with 216 AM peak hour trips (43 inbound / 173 outbound) and 242 PM peak hour trips (169 inbound and 73 outbound).

TABLE 2–1
PROJECT TRIP GENERATION

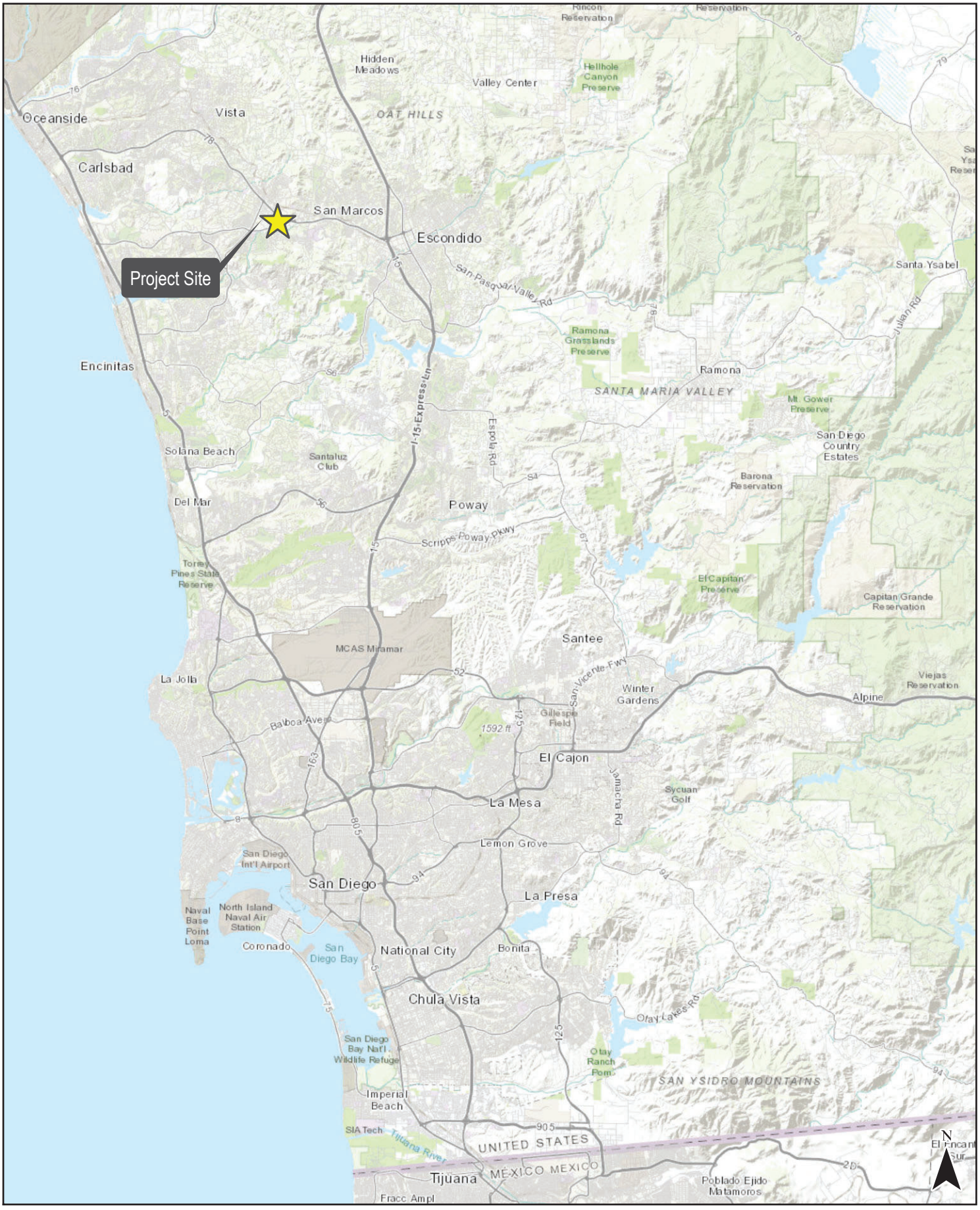
Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate [a]	ADT	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartments (multi-family > 20 du/acre)	449 DU	6/DU	2,694	8%	20:80	43	173	216	9%	70:30	169	73	242

Footnotes:

a. Trip generation rate from SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002* ("SANDAG Brief Guide").

General Note:

- DU = Dwelling Unit



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Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

Figure 2-1
Vicinity Map

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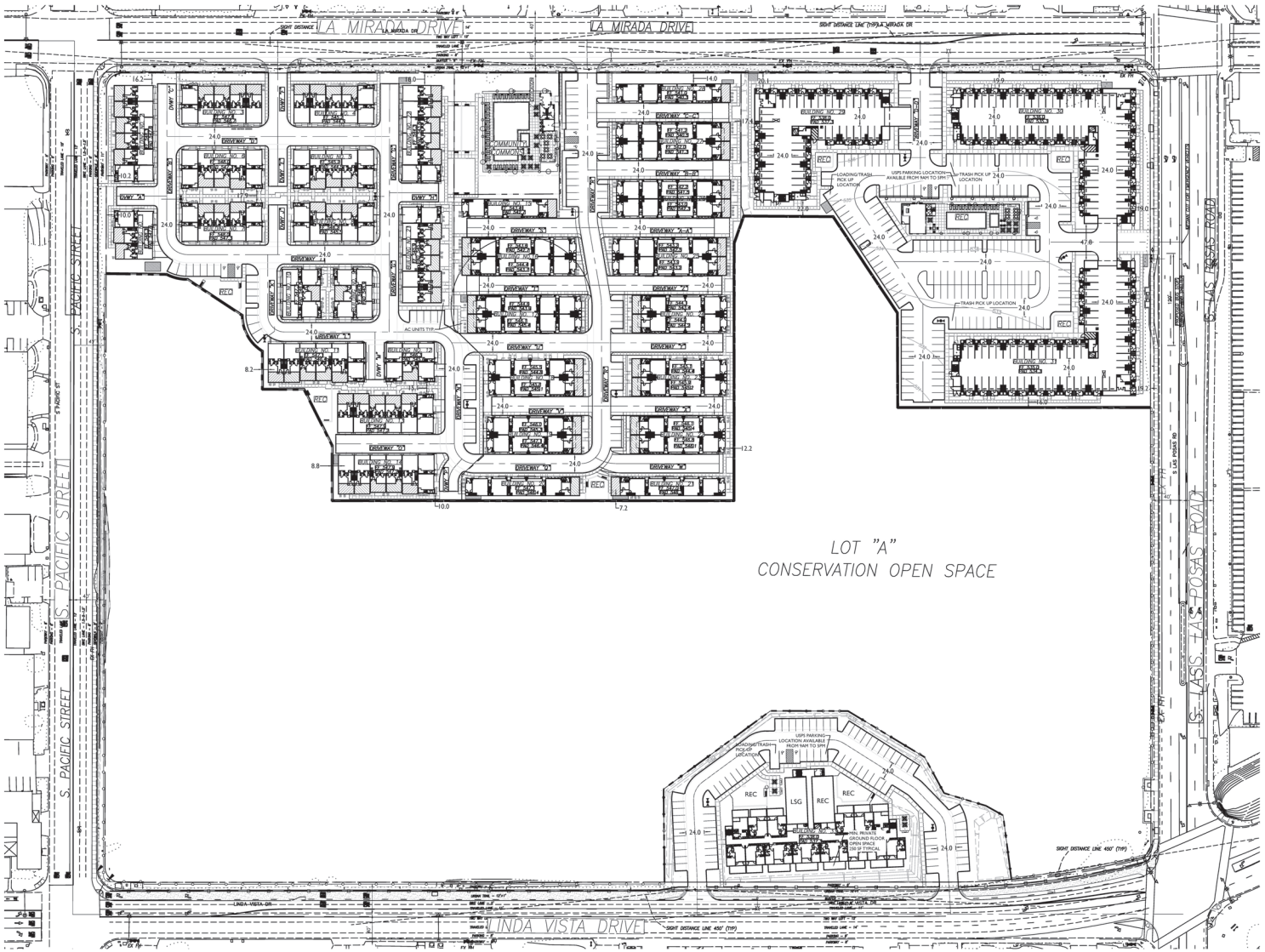
Figure 2-2
Project Area Map

[redacted]



RESIDENCES 449 HOMES
GROSS SITE AREA 33.229 ACRES (15.091 ACRES NET)
GROSS DENSITY 13.51 DU/AC (29.75 DU/AC NET)

ROWHOMES - LOT 1

23	2BD/2BA	1,200 SF
23	3BD/3BA	1,310 SF
28	3BD/3.5BA	1,736 SF
27	4BD/3.5BA	1,890 SF
101	4.419 AC =	22.86 DU/AC

PARKING SUMMARY PER CA 65915

2&3 BD	74 X 1.5 =	111 SPACES
4 BD	27 X 2.5 =	68 SPACES
TOTAL REQUIRED		179 SPACES
TOTAL PROVIDED		234 SPACES* (32 OPEN/202 PRIVATE GARAGES)

*NOTE: RECIPROCAL ACCESS & PARKING AGREEMENT BETWEEN LOT 1 & 2
(LOT 1 EV = 234 SP X 5% = 12 EV LEVEL 2 CHARGERS INSTALLED)

PRIVATE OPEN SPACE	REQUIRED	PROVIDED
101 X 50 SF	5,050 SF	6,959 SF
COMMON OPEN SPACE	REQUIRED	PROVIDED
GROUND FLOOR SF X 30% 12,945 SF		
TOT LOT (1:25 DU) 4X400 SF	1,600 SF	
PLAYGROUND	800 SF	
TOTAL	15,345 SF	40,876 SF

VILLAS - LOT 2

60	2BD/2BA	1,272 SF
24	3BD/2.5BA	1,486 SF
24	3BD/3BA	1,832 SF
108	4.583 AC =	23.57 DU/AC

PARKING SUMMARY PER CA 65915

2&3 BD	108 X 1.5 =	162 SPACES
TOTAL REQUIRED		162 SPACES
TOTAL PROVIDED		254 SPACES* (38 OPEN/216 PRIVATE GARAGES)

*NOTE: RECIPROCAL ACCESS & PARKING AGREEMENT BETWEEN LOT 1 & 2
(LOT 2 EV = 254 SP X 5% = 13 EV LEVEL 2 CHARGERS INSTALLED)

PRIVATE OPEN SPACE	REQUIRED	PROVIDED
108 X 50 SF	5,400 SF	6,180 SF
COMMON OPEN SPACE	REQUIRED	PROVIDED
GROUND FLOOR SF X 30%	16,204 SF	
TOT LOT (1:25 DU) 5X400 SF	2,000 SF	
PLAYGROUND	800 SF	
TOTAL	19,004 SF	29,899 SF

APARTMENTS - LOT 3

86	1B/1BA	740 SF
62	2BD/2.5BA	1,256 SF
24	3BD/2.5BA	1,579 SF
172	4.308 AC =	39.93 DU/AC

PARKING SUMMARY PER CA 65915

1BD	86 X 1.0 =	86 SPACES
2&3BD	86 X 1.5 =	129 SPACES
TOTAL REQUIRED		215 SPACES
PROVIDED COVERED (1:1)		172 GARAGE SPACES
PROVIDED OPEN		187 SPACES
TOTAL PROVIDED		359 SPACES

(LOT 3 EV = 359 SP X 5% = 18 EV LEVEL 2 CHARGERS INSTALLED)

PRIVATE OPEN SPACE	REQUIRED	PROVIDED
172 X 50 SF	8,600 SF	11,180 SF
COMMON OPEN SPACE	REQUIRED	PROVIDED
GROUND FLOOR SF X 30%	15,606 SF	
TOT LOT (1:25 DU) 6X400 SF	2,400 SF	
PLAYGROUND	800 SF	
TOTAL	18,806 SF	47,870 SF

AFFORDABLE - LOT 4

UNIT MIX

8	STUDIO/1BA	512 SF
42	1BD/1BA	625 SF
18	2BD/2BA	924 SF
68	1.781 AC =	38.18 DU/AC

PARKING PROVIDED PER CA 65915

50 X 1.0 SP/DU =	50 SPACES
18 X 1.5 SP/DU =	27 SPACES
TOTAL REQUIRED	77 SPACES
TOTAL PROVIDED	80 SPACES

(LOT 4 EV = 80 SP X 5% = 4 EV LEVEL 2 CHARGERS INSTALLED)

PRIVATE OPEN SPACE	REQUIRED	PROVIDED
68 X 50 SF	3,400 SF	3,111 SF
COMMON OPEN SPACE	REQUIRED	PROVIDED
GROUND FLOOR SF X 30%	2,828 SF	
TOT LOT (1:25 DU) 3X400 SF	1,200 SF	
TOTAL	4,028 SF	16,340 SF

TOTAL EV = 927 SP X 5% = 47 EV LEVEL 2 CHARGERS INSTALLED

(PROJECT SHALL MEET THE MINIMUM CGBSC STANDARDS FOR EV CHARGING FOR NEW CONSTRUCTION AT TIME OF PERMIT APPLICATION)

SAN MARCOS, CA

UPHAM PROPERTY

CONCEPTUAL SITE PLAN

INTEGRAL COMMUNITIES
703 Palomar Airport Road, Suite 170
Carlsbad, CA 92011
(760) 944-7511

JANUARY 25, 2023

SCALE: 0 60 120 180

SUMMA ARCHITECTURE
5256 S. Mission Road, Ste 404
Bonsall, CA 92003
760.724.1198 summarch.com

A-SP

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Figure 2-3
Project Site Plan

3.0 VEHICLE MILES TRAVELED ANALYSIS APPROACH & METHODOLOGY

Vehicles Miles Traveled (VMT) analysis required for CEQA was prepared based on the City of San Marcos *Transportation Impact Analysis Guidelines*, November 16, 2020. This section presents the applicable project screening criteria, VMT methodology, metrics, and significant impact thresholds per City guidelines.

3.1 Project Screening

The requirement to prepare a detailed transportation Vehicle Miles Traveled (VMT) analysis applies to all land development projects except for those that meet at least one of the provided screening criteria. A project that meets at least one of the screening criteria listed below would be considered to have a less-than-significant impact due to the project or location characteristics.

1. *Small Projects* (less than 110 daily vehicle trips)
2. *Affordable Housing* (100% deed restricted)
3. *Local Serving Retail and Public Facilities* (50,000 square feet gross floor area or less)
4. *Adjacency to High-Quality Transit*
5. *Map-Based Screening* (projects located in VMT efficient areas; limited to projects generating fewer than 2,400 ADT)

Project screening was completed based on the Project described previously in this report. Based on the project site location, land use characteristics, and trip generation of the Project (see *Table 2–1*), none of the above listed screening criteria are applicable and therefore a detailed VMT analysis is required.

3.2 VMT Methodology, Metrics, and Significance Thresholds

For new land use development which do not meet any of the screening criteria, the following VMT metrics and thresholds, shown in ***Table 3–1***, are used to determine a significant transportation impact.

The Project will use a VMT metric of VMT per resident, with a significance threshold of 15 percent below the existing countywide average.

TABLE 3–1
VMT IMPACT THRESHOLDS BY LAND USE TYPE

Land Use Type	Impact Threshold
Residential Uses	A significant impact will occur if the project generates VMT per resident exceeding a level of 15 percent below the existing countywide average.
Employment Projects (including office and industrial)	A significant impact will occur if the project generates VMT per employee exceeding a level of 15 below the existing countywide average.
Retail Uses	A significant impact will occur if the project would result in a net increase in existing total citywide VMT.
Mixed-Use Projects	Evaluate each component of a mixed-use project independently and apply the significant threshold for each land use type, incorporating internalization reductions.
Redevelopment Projects (replaces existing uses)	If the project results in a net increase in VMT, apply the appropriate significance threshold for the project land use type(s).

Source: City of San Marcos *Transportation Impact Analysis Guidelines* (November 2020).

4.0 PROJECT VMT ANALYSIS

As described in the previous section, the Project does not meet any of the screening criteria and a detailed VMT analysis is required to evaluate the Project's VMT per Resident. Project VMT analysis is based on the Project described previously in this report. The Project generates greater than 2,400 ADT and therefore the Project's residential VMT efficiency was estimated using the SANDAG regional travel demand model.

4.1 Technical Methodology – SANDAG Modeling

Consistent with City guidelines, the SANDAG regional travel demand model was used to estimate the Project's VMT per Resident. The SANDAG Series 13 Base Year 2012 Travel Demand Model was customized to reflect the Project land uses as shown in *Table 8–1*.

The SANDAG Series 13 model (also known as ABM 1) is the latest available model from SANDAG that can be run with land use overrides. SANDAG Series 14 (ABM 2) is the latest published and approved model for VMT data and analysis is recommended to be used whenever possible. However, the ABM 2 model cannot be run for development projects that require land use overrides to produce project VMT information. Another update to the regional model (ABM 2+) is currently in development that will be able to run land use overrides. This update was adopted in December 2021 but the capability of running land use overrides currently remains unavailable.

According to a white paper prepared by the ITE Transportation Capacity and Mobility Task Force addressing VMT modeling in the interim period, "the use of ABM 1 for VMT analysis for those projects that require a model run and involve land use overrides is defensible because it would provide the best available data."[1] The ITE white paper is included in ***Appendix A***.

4.2 Project VMT Model Results

Table 4–1 shows the Project VMT analysis. Based on the model outputs, the Project VMT per Resident is 10.8, or 38% below the regionwide VMT per Resident of 17.5 as calculated from the same model run. The significance threshold of 15% below the regionwide average is therefore 14.9 VMT per Resident. ***Appendix B*** contains the VMT model data.

The project VMT results reflect, in part, the moderately high employment density in the vicinity based on the surrounding commercial and light industrial land uses. Beyond employment, the well-developed commercial area along Las Posas Road immediately opposite the Project site can also serve the shopping and dining demand of future residents within easy walking distance. As discussed in *Section 12.5*, the site is adjacent to bus stops serving two separate routes with connections to SPRINTER service at Palomar College Station. It should also be noted that the project is providing 75 affordable units, approximately 15% of the total units. Affordable or below market rate housing is associated with reduced VMT relative to market rate units, and this characteristic was not included in the model run.

[1] *Use of ABM 1 and ABM 2 for SB 743 Related VMT Analysis in the Interim Until ABM 2+ is Completed* [White paper]. San Diego, CA: ITE Transportation Capacity and Mobility Task Force – SB 743 Modeling Subcommittee, 2020.

The results of the Project VMT comparison indicate that the Project VMT per Resident is below the significance threshold. No mitigation measures for VMT impacts are required.

TABLE 4–1
PROJECT VMT FINDINGS

Metric	Regionwide Average [a]	Significance Threshold (15% below Average)	Project VMT [a]	Project VMT Over Threshold	% of Project VMT Over Significance Threshold	Transportation Impact? (Over Threshold)
VMT per Resident	17.5	14.9	10.8	—	—	**No**

Footnotes:

a. Regionwide Average and Project VMT per Resident from SANDAG Series 13 Base Year 2012 Travel Demand Model, customized to include proposed Project land uses.

5.0 CONCLUSIONS

Based on the model output of the SANDAG regional travel demand model run customized with the Project Project land uses the Project's VMT per Resident is less than 15% below the regionwide average. The Project therefore has a less than significant CEQA transportation impact and no mitigation measures are required.

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TECHNICAL APPENDICES – VMT
PACIFIC PROJECT

San Marcos, California
January 26, 2023

LLG Ref. 3-20-3279

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APPENDIX A

ITE TRANSPORTATION CAPACITY AND MOBILITY TASK FORCE WHITE PAPER

ITE Transportation Capacity and Mobility Task Force - SB 743 Modeling Subcommittee

Use of ABM 1 and ABM 2 for SB 743 Related VMT Analysis in the Interim Until ABM 2+ is Completed
Final DRAFT - July 17, 2020

Drafted/Reviewed by: Maureen Gardiner, Phuong Nguyen, Katy Cole, Erik Ruehr

SANDAG Travel Demand Model Versions

For reference, below are the most recent SANDAG travel demand model versions and some relevant information about them. For complete information on SANDAG travel demand models, go to www.sandag.org.

Series 12 (retired from service)
- 2011 Regional Plan
- First Sustainable Communities Strategy (SCS)
- Used the Series 12 Growth Forecast, Base Year 2008
- Based on 2006 travel behavior survey
- Used the old 4-step travel demand model method (trip based)

ABM 1 (previous model version)
- 2015 Regional Plan (RP)
- Second SCS
- Uses the Series 13 Growth Forecast, Base Year 2012
- Based on 2006 travel behavior survey
- Uses the new activity based model method (tour based)
- Able to be run with land use overrides.

ABM 2 (current model version)
- 2019 Federal Regional Transportation Plan (RTP)
- Does not include a SCS
- Uses the network assumptions from the 2015 Regional Plan
- Uses a previous version of the Series 14 Growth Forecast, Base Year 2016
- Based on 2016 travel behavior survey
- Not able to be run with land use overrides.

ABM 2+ (under development)
- 2021 Regional Plan (RP) (under development)
- Will include third SCS
- Will include the 5 Big Moves
- Will use networks that are currently under development
- Will use an updated version of the Series 14 Growth Forecast, Base Year 2016
- Will be based on 2016 travel behavior survey, 2018 commute behavior survey
- Will include a SCS
- Was peer-reviewed in March 2020

- Will be able to be run with land use overrides after adoption by November 2021.

Background

SB 743 requires that the metric for CEQA transportation analysis of land development projects be changed from level of service (LOS) to vehicle miles traveled (VMT). Local agencies are required to implement this change by July 1, 2020. SANDAG's regional travel demand model is the best tool available to produce the needed VMT data within the San Diego region. SANDAG produced draft VMT data from the ABM 1 Series 13 Base Year (2012) model and published draft maps that provide resident VMT per capita and employee VMT per employee by census tract, as well as the regional averages.

Since that time, the region has adopted an updated Federal RTP (2019) and is using a new model version (ABM 2 Series 14) with a base year of 2016. SANDAG plans to publish this model resident VMT per capita and employee VMT per employee data in Spring 2020 by census tract, city, City of San Diego community planning area (CPA), and the region.

SANDAG is currently working on another update to the regional model (ABM 2+ with an updated Series 14 growth forecast) and a significant update to the Regional Plan (2021) that will include the Five Big Moves and use the updated ABM 2+ model.

Problem Statement

The current (ABM 2) model cannot be run/used for development projects that require land use overrides to produce project VMT information because the necessary scripts/procedures were not developed due to time, cost, competing work efforts including development of ABM 2+ and the Regional Plan Update, staff capacity, etc. The ABM 2+ model will available in November 2021, after adoption of the 2021 Regional Plan, and will have this capability. This leaves a period of approximately 18 months during which time it may be necessary to use two different models to produce VMT data for project CEQA transportation analysis in the region. This paper outlines a recommended approach to address this issue.

Recommended Approach

1. It is recommended to use the latest published and approved model (soon to be SANDAG ABM 2) for VMT data/analysis whenever possible and use the previously published model (SANDAG ABM 1) only when necessary due to limitations related to the inability to run ABM 2 with land use overrides. This is because ABM 2 would be the most current and arguably most accurate available VMT data for several reasons including that it has a more current base year (2016 verses 2012), is based on a more current travel behavior survey (2016 verses 2006 - which was pre-TNCs and micromobility devices). The use of ABM 1 for VMT analysis for those projects that require a model run and involve land use overrides is defensible because it would provide the best available data. In addition, the following is recommended:

a. Only compare VMT data within the same model version. CEQA transportation impact significance thresholds should be based upon percent of regional (or City) averages *within same model version*. Mixing and matching absolute VMT data values between models would not be appropriate because the underlying assumptions in each model are different.
    i. Note that the VMT analysis and significance threshold for land use plans and projects is based on a comparison (expressed as a percentage) of project VMT/capita or VMT/employee to the relevant regional or city[1] average. Therefore, regardless of whether projects use ABM 1 or ABM 2 for analysis, they would still use the same significance threshold (i.e. the same percentage). While the underlying data (VMT/capita or VMT/employee) may be different depending on whether ABM 1 or ABM 2 is used, the significance threshold which is based on a percentage relative to the regional or city[1] average, is consistent. For most projects following OPR or regional guidelines, the significance threshold will be 15% below the relevant regional or city[1] average VMT/capita or VMT/employee for residential and office employment uses.

b. Try to limit model runs. Whenever possible, use published VMT data instead. Due to the sophistication of the ABM, it requires significant run times (40-70+ hours) to produce results which may have limited or no added value for producing VMT data at the scale of individual project analyses. Exceptions to this may include large projects and projects in areas where there was not sufficient base year activity present to produce reliable data.
c. If an ABM 1 model run is needed for CEQA transportation VMT analysis, the analysis should be based on the comparison of VMT efficiency of the project (as determined from the ABM 1 land use override model run) compared to the relevant average from the SANDAG published ABM 1 data. In these cases, if needed, the "equivalent" project ABM 2 VMT could be estimated by applying this same relationship to the ABM 2 VMT average. [e.g. Fill in with an example once we have both maps and can use real data from ABM 2.]
d. If an ABM 1 model run with a land-use override is needed only to determine traffic distribution for a mobility analysis, but not for CEQA transportation VMT analysis, use the VMT per capita or VMT per employee data from ABM 2 even though the project may use an ABM 1 model run to help determine traffic distribution.
e. ABM 1 and ABM 2 will report different forecast traffic volumes. Determining the most appropriate estimates for forecast traffic volumes (when future year analysis is needed) will require engineering judgement, as it always has.

[1] For residential land uses the OPR Technical Advisory recommends a significance threshold of 15% below the regional or city average VMT per capita. For office employment uses the recommended threshold is 15% below the regional average VMT per employee.

f. VMT and ADT information is often needed for other CEQA impact analysis issue areas such as GHG, air quality, and noise. Practitioners should document sources and rationale when it is appropriate to draw information from multiple models.

Options Considered and Rejected

Several options were evaluated in order to arrive at the recommended approach described in the previous section. Those options considered and rejected are briefly described below along with an explanation of why they were not selected.

Using the Series 13 ABM 1 for all VMT data and modeling for CEQA land use project transportation analysis was one approach that was considered. Although this would provide consistency to use only one model for all CEQA transportation analysis, it would not be the most current and most accurate VMT data available because the base year for ABM 1 is 2012 (verses 2016 for ABM 2) and ABM 1 is not based on the current RTP.

Another approach considered was to use ABM 2 to determine average regional, City, and CPA values for VMT/capita and VMT/employee regardless of which model is used for analysis. This would provide a consistent basis for comparison (i.e. significance threshold VMT value) for all projects, however would be making an "apples to oranges" comparison (by determining VMT/capita and VMT/employee results from one model (ABM 1) and comparing it to averages based on a different model (ABM 2). This would not be appropriate because the base year for ABM 1 is 2012 (verses 2016 for ABM 2) and ABM 1 is based on the 2015 RP (where ABM 2 is based on the 2019 RTP).

APPENDIX B

SANDAG VMT MODEL OUTPUT

Vehicle Miles of Travel Report

Scenario ID 1298 **Upham - 2012 - mgra 18577**

Aggregate VMT

Gross VMT

Geography			VMT
Regionwide			80,064,384
Clip 1	SAN MARCOS		
Clip 2		0	

Distribution VMT

Query	Type	Description	VMT
1	Zone	0	
2	0	0	-
3	0	0	-
4	0	0	-

SB-743 VMT

VMT per Resident

Geography		Scenario ID	Residents	Total Trips	Person Miles of Travel	Vehicle Miles of Travel	VMT per Resident
Regionwide		1298	3,130,912	11,194,155	73,056,371	54,777,143	17.5
Jurisdiction	SAN MARCOS	1298	87,016	313,052	1,863,136	1,357,538	15.6
Site	mgra 18577	1298	1,495	5,361	23,190	16,185	**10.8**

VMT per Employee

Geography		Scenario ID	Employees	Total Trips	Person Miles of Travel	Vehicle Miles of Travel	VMT per Employee
Regionwide		1298	1,492,074	5,237,648	43,556,491	38,532,178	25.8
Jurisdiction	SAN MARCOS	1298	38,849	140,878	1,084,028	938,539	24.2
Site	mgra 18577	1298	33	122	618	495	**15.0**

Report Generated: 03/29/21

SANDAG