



TECHNICAL MEMORANDUM

TO: For applicant submittal to the CITY OF HESPERIA

FROM: Bryan Crawford, Giancarlo Ganddini | Ganddini Group, Inc.

DATE: July 8, 2025

SUBJECT: Amargosa and Palmetto High-Cube Warehouse Project
Vehicle Miles Traveled Analysis
GGI Project No. 19522

The purpose of this memorandum is to evaluate the project's vehicle miles traveled (VMT) impact in the context of the California Environmental Quality Act (CEQA) based on the methodology and thresholds established by the City of Hesperia as the Lead Agency. We trust the findings of this analysis will aid the City of Hesperia in assessing the project.

PROJECT DESCRIPTION

The 30.52-acre project site is located on the northwest corner of Amargosa Road and Palmetto Way in the City of Hesperia, California. The currently vacant site is proposed to be developed with a 499,714 square foot high-cube fulfillment center warehouse building. The project site is proposed to provide three access driveways on Palmetto Way. All three project driveways are proposed to be full access. The project west driveway will be truck only. The project central driveway and project east driveway will provide access for both auto and trucks. The site plan is provided in Attachment A.

PROJECT TRIP GENERATION

For informational purposes, the project trip generation estimate is provided in Attachment B as documented in the *Amargosa and Palmetto High-Cube Warehouse Revised Traffic Impact Analysis* (Ganddini Group, February 28 2025). As shown in Attachment B, the proposed project is forecast to generate 905 daily trips, including 74 trips during the AM peak hour and 77 trips during the PM peak hour. As also shown in Attachment B, the proposed project is forecast to generate 1,083 daily Passenger Car Equivalent (PCE) trips, including 90 PCE trips during the AM peak hour and 81 PCE trips during the PM peak hour.

VMT BACKGROUND

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. All agencies and projects State-wide are required to utilize the updated CEQA guidelines recommending use of VMT for evaluating transportation impacts as of July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California, December 2018) ["OPR Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT.

Based on guidance from the OPR Technical Advisory, the City of Hesperia adopted the *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS)* (July 2020) ["TIA Guidelines"], which establishes the City approved methodologies and thresholds.

SCREENING ASSESSMENT

The City TIA Guidelines identify screening criteria for certain types of projects that typically reduce VMT and may be presumed to result in a less than significant VMT impact. To qualify for VMT screening, the project need only satisfy one of the following screening criteria:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

Based on initial review, the project does not satisfy any of the screening criteria; therefore, further analysis for non-screened development is warranted in accordance with the City's TIA Guidelines.

METHODOLOGY

The following section documents the analytical methodology and thresholds of significance as specified in the City TIA Guidelines.

VMT Assessment for Non-Screened Development

The project-generated VMT and project effect on VMT are calculated using San Bernardino Transportation Analysis Model (SBTAM) for the following scenarios:

- Baseline Conditions: This scenario reflects the existing SBTAM base year model.
- Baseline Plus Project: This scenario reflects the existing SBTAM base year model run with the addition of project socio-economic data (SED) to the project traffic analysis zone (TAZ).
- Cumulative No Project: This scenario reflects the existing SBTAM future year model (2050).
- Cumulative Plus Project: This scenario reflects a new SBTAM future year model run with the addition of project SED to the TAZ.

Thresholds of Significance

Project-Generated VMT

A project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

- The baseline project-generated VMT per service population exceeds the San Bernardino County regional average baseline VMT per service population; or
- The cumulative project-generated VMT per service population exceeds the San Bernardino County regional average baseline VMT per service population.

Project Effect on VMT

The project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

- The baseline link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition; or
- The cumulative link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition.

The cumulative no project reflects the adopted Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Accordingly, cumulative impacts shall be considered less than significant if a project is consistent with the RTP/SCS, absent substantial evidence to the contrary.

NEED FOR CUMULATIVE VMT IMPACTS EVALUATION

As specified in the City TIA Guidelines, cumulative impacts shall be considered less than significant if a project is consistent with the RTP/SCS, absent substantial evidence to the contrary.

The project is located within the Southern California Association of Governments (SCAG) Metropolitan Planning Organization (MPO). SCAG is the MPO responsible for development of Connect SoCal 2024, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the region. Through the local input process, SCAG solicited input from all 197 local jurisdictions, including the City of Hesperia, regarding current land use, socio-economic projections, sustainability and transit measures to develop the Connect SoCal plan and growth projections through the horizon year 2050. The information collected and used in development of the SCAG's long-range plans and environmental goals is documented in Data/Map Books for each jurisdiction.

Based on review of the Data/Map Book for the City of Hesperia, the project site is zoned for commercial retail use per SCAG's land use codes. Since the project proposes a GPA from Regional Commercial (RC) to Com/Ind Business Park (CIBP), evaluation of potential cumulative VMT impacts was determined to be necessary.

PROJECT-GENERATED VMT

In accordance with the City TIA Guidelines, project-generated VMT was calculated using SBTAM+ (version 3.2). The SBTAM model is a trip-based travel demand model developed and maintained by the San Bernardino County Transit Authority (SBCTA). The model analyzes a complex system of inputs such as highway networks, socio-economic data (SED), driver behavior, and goods movement to forecast travel patterns as the region

grows and changes. The SBTAM model covers the entire SCAG region, but the model data is more refined and focused within San Bernardino County as opposed to other areas of the region.

To evaluate project VMT within SBTAM, the project land use must be converted into socio-economic data (SED). Table 1 below shows the project's employment estimate based on employment factors obtained from the Southern California Association of Governments (SCAG) *Employment Density Study Summary Report* (October 31, 2001).

Table 1
Employment Estimates

Employment Density Factors			
Land Use	Employment Density Factor		
Regional Retail	1,009	SF	per Employee
Warehouse	1,195	SF	per Employee

SBTAM SED Inputs		
Land Use	SF ¹	Employees
Proposed Project		
Warehouse	499,714	418
Existing General Plan Buildout Use to be Displaced		
Regional Retail	-499,714	-495
SBTAM Project SED Updates		
Warehousing Employment (Baseline and Cumulative)		+418
Other Retail Employment (Cumulative Only) ²		-113

Source: SCAG Employment Density Study Summary Report (October 31, 2001)

Notes:

1. SF = Square Feet

2. The SBTAM only assumes 69 retail employees for baseline and 182 retail employees for cumulative SED inputs; therefore, the retail SED displacement was constrained to hold the baseline SED estimates (i.e., the proposed project would result in no additional retail employees compared to baseline).

The project is proposing a General Plan Amendment (GPA) to change the land use from Regional Commercial (RC) to Com/Ind Business Park (CIBP). Based on SCAG's employment density factors, the current General Plan land use of 499,714 square feet of commercial retail would equate to approximately 495 employees; however, the cumulative model only includes 182 retail employees within the project TAZ. Therefore, the number of commercial retail employees that would be displaced in the cumulative model was constrained to 113, thus reflecting no additional retail employees in the project TAZ for year 2050 with project conditions.

The project site is located in TAZ 53908201. The project SED (418 employees) was added to TAZ 53908201. The project-generated VMT was determined as the net change in total VMT for the project TAZ between without and with project model runs. Table 2 shows the daily VMT estimates for the project TAZ.

Table 2
Daily VMT Estimates for Project TAZ

Scenario	Without Project				With Project				Net Change (i.e., Project VMT)			
	VMT	POP	EMP	VMT per SP	VMT	POP	EMP	VMT per SP	VMT	POP	EMP	VMT per SP
Baseline (2019)	38,820	790	117	42.8	69,639	790	535	52.6	30,819	0	418	73.7
Cumulative (2050)	136,709	806	1,230	67.2	148,582	806	1,535	63.5	11,873	0	305	38.9

Source: SBTAM+ (v3.2), Baseline (2019) and Cumulative (2050) models, TAZ 53908201.

Notes:

1. VMT = Vehicle Miled Traveled; POP = Population; EMP = Employment; SP = Service Population (Population + Employment)

As specified in the City's TIA Guidelines, the threshold for project-generated VMT is based on the San Bernardino County regional average baseline VMT per service population. The numeric threshold of 32.7 VMT per service population referred to in the City's TIA Guidelines was calculated based on an earlier version of the SBTAM model that was current at the time of preparation of the guidelines. Since the project VMT was calculated based on the latest SBTAM+ model (version 3.2), an updated numerical threshold was calculated using the latest SBTAM+ model to provide an "apples-to-apples" comparison of the project's impact relative to the Countywide average.

Table 3 shows the Countywide daily VMT estimates for using the latest SBTAM+ model (version 3.2).

Table 3
Countywide Daily VMT Estimates

Scenario	San Bernardino County			
	Total VMT	POP	EMP	VMT per SP
Baseline	117,898,127	2,217,168	859,874	38.3

Source: SBTAM+ (v3.2), baseline (2019) model.

Notes:

1. VMT = Vehicle Miled Traveled; POP = Population; EMP = Employment; SP = Service Population (Population + Employment)

As shown in Table 3, the San Bernardino County regional average baseline is equal to 38.3 VMT per service population.

Table 4 shows the project-generated VMT impact assessment.

Table 4
Project-Generated VMT Impact Assessment

Scenario	Project-Generated VMT Impact Assessment			
	Project VMT per SP ¹	Threshold ²	Above/Below Threshold (%)	Significant VMT Impact?
2019 (Baseline)	73.7	38.3	+92.4%	Yes
2050 (Cumulative)	38.9	38.3	+1.6%	Yes

Notes:

1. VMT = Vehicle Miles Traveled; SP =Service Population (Population + Employment)
2. Per current SBTAM+ (v3.2).

It is noted that, although the project-generated VMT is estimated to exceed the Countywide average, the proposed project would improve the VMT per service population generated by the TAZ compared to development of the site as a regional retail use per the current General Plan land use designation.

Threshold: A project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

- The baseline project-generated VMT per service population exceeds the San Bernardino County regional average baseline of 38.3 VMT per service population; or
- The cumulative project-generated VMT per service population exceeds the San Bernardino County regional average baseline of 38.3 VMT per service population.

Finding: As shown in Table 4, the project-generated VMT is estimated to equal 73.7 VMT per service population for baseline conditions and 38.9 VMT per service population for cumulative conditions, both of which exceed the City-established threshold of 38.3 VMT per service population. Therefore, the project-generated VMT results in a significant impact without mitigation based on the City-established thresholds.

Recommendation

It is recommended that the project implement transportation demand management (TDM) measures to reduce single-occupancy vehicle trips to the extent feasible; however, implementation of such measures are not anticipated to reduce the project's impact to a less than significant level. Guidance from the California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (December 2021) ["CAPCOA Handbook"] includes information on nine (9) trip reduction program measures that may apply at the project/site level. Guidance from the CAPCOA Handbook states that the maximum reduction possible is 45 percent. It is likely that many of the trip reduction measures identified in the CAPCOA Handbook will not be feasible given the nature of industrial operations. Additionally, even if the maximum VMT reduction of 45 percent is achievable, the project-generated VMT would still exceed the County-established threshold. Other mitigation measures identified in the City's TIA Guidelines, such as modifying the project's built environment or participating in a VMT fee program, are not feasible at the project level or are not currently available. Therefore, the project-generated VMT impact would remain significant and unavoidable.

PROJECT EFFECT ON VMT

The project's effect on VMT was also evaluated using the current SBTAM+ model. Table 5 summarizes the link-level boundary VMT per service population within the County boundary for without and with project conditions.

Table 5
Project Effect VMT Impact Assessment

Scenario	Link-Level VMT Impact Assessment				
	Countywide Link-Level VMT	POP	EMP	Link-Level VMT per SP	Significant Project Effect on VMT?
Baseline (2019) Without Project	67,280,657	2,217,168	859,874	21.9	No
Baseline (2019) With Project	67,242,096	2,217,168	860,292	21.8	
Cumulative (2050) Without Project	94,743,867	2,622,252	1,144,814	25.2	No
Cumulative (2050) With Project	94,734,460	2,622,252	1,145,056	25.1	

Source: SBTAM+ (v3.2), Baseline (2019) and Cumulative (2050) models.

Notes:

1. VMT = Vehicle Miled Traveled; POP = Population; EMP = Employment; SP = Service Population (Population + Employment)

Threshold: The project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

- The baseline link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition; or
- The cumulative link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition.

Finding: As shown in Table 5, the link-level VMT per service population within the County boundary is forecast to decrease from 21.9 to 21.8 VMT per service population for baseline plus project conditions and decrease from 25.2 to 25.1 VMT per service population for cumulative plus project conditions compared to the no project conditions. Therefore, the project effect on VMT is less than significant without mitigation based on the City-established thresholds.

CONCLUSIONS

The project-generated VMT is estimated to equal 73.7 VMT per service population for baseline conditions and 38.9 VMT per service population for cumulative conditions, both of which exceed the City-established threshold of 38.3 VMT per service population. Therefore, the project-generated VMT results in a significant impact without mitigation based on the City-established thresholds.

The link-level VMT per service population within the County boundary is forecast to decrease from 21.9 to 21.8 VMT per service population for baseline plus project conditions and decrease from 25.2 to 25.1 VMT per service population for cumulative plus project conditions compared to the no project conditions. Therefore, the project effect on VMT is less than significant without mitigation based on the City-established thresholds.

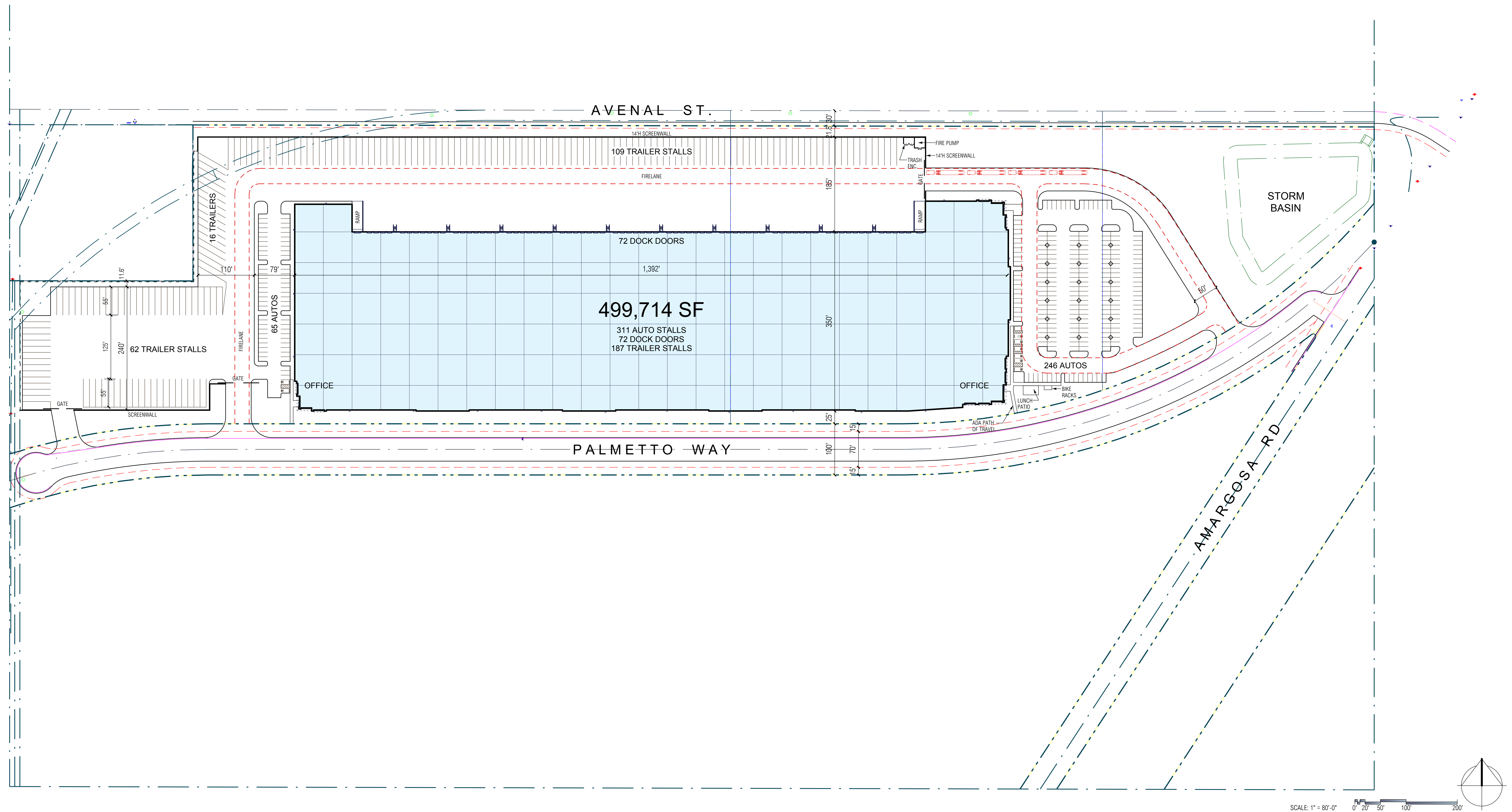
It is recommended that the project implement transportation demand management (TDM) measures to reduce single-occupancy vehicle trips to the extent feasible; however, implementation of such measures are not anticipated to reduce the project's impact to a less than significant level. Therefore, the project-generated VMT impact would remain significant and unavoidable.

We appreciate the opportunity to assist you with this project. Please contact us at (714) 795-3100 if we can be of further assistance.

ATTACHMENT A

SITE PLAN

APPROX. NET INDUSTRIAL SITE AREA:	1,329,521 SF / 30.52 AC
BUILDING AREA:	499,714 SF
COVERAGE:	37.6 %
F.A.R.	0.376
AUTO PARKING REQUIRED:	
10,000 SF OFFICE @ 3.33 / 1000 SF	33 STALLS
489,714 SF WAREHOUSE: 20 + 0.4 / 1000 O/ 10K SF	212 STALLS
TOTAL	245 STALLS
PARKING PROVIDED:	
STANDARD STALLS	304 STALLS
ACCESSIBLE STALLS	7 STALLS
TOTAL STALLS PROVIDED	311 STALLS
DOCK LOADING POSITIONS	72 DOCKS
TRAILER PARKING STALLS	171 TRAILERS
LANDSCAPE PROVIDED	00 SF / 00 %



PALMETTO WAY - HESPERIA, CA

SCHEMATIC SITE PLAN

	1/22/25	PLANNING RESUBMITTAL
	12/11/24	SCHEMATIC SET ISSUE
MARK	DATE	DESCRIPTION

RG&A PROJECT NO:	21073.00
CAD FILE NAME:	21073-00-A1-1-P
DRAWN BY:	CS
CHK'D BY:	CS
COPYRIGHT: RGA, OFFICE OF ARCHITECTURAL DESIGN	
SHEET TITLE	

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ATTACHMENT B

PROJECT TRIP GENERATION
EXCERPT FROM TRAFFIC IMPACT ANALYSIS

Table 2
Project Trip Generation

Land Use: High-Cube Fulfillment Center Warehouse (Non-Sort)
Size: 499,714 TSF

TRIP GENERATION RATES PER TSF ¹								
Vehicle Type	Source ²	AM Peak Hour			PM Peak Hour			Daily Rate
		In	Out	Rate	In	Out	Rate	
All Vehicles	ITE 155	81%	19%	0.150	39%	61%	0.160	1.810
Trucks Only	ITE 155	50%	50%	0.020	46%	54%	0.010	0.230
Passenger Car (86.7% AM, 93.8% PM, 87.3% Daily)		0.105	0.025	0.130	0.059	0.092	0.151	1.580
Truck (13.3% AM, 6.3% PM, 12.7% Daily)		0.010	0.010	0.020	0.005	0.005	0.010	0.230
Truck Mix:	SCAQMD							
2-Axle Trucks (16.7%)		0.002	0.002	0.004	0.001	0.001	0.002	0.038
3-Axle Trucks (20.7%)		0.002	0.002	0.004	0.001	0.001	0.002	0.048
4+ Axle Trucks (62.6%)		0.006	0.006	0.012	0.003	0.003	0.006	0.144

VEHICLE TRIPS GENERATED								
Vehicle Type	AM Peak Hour			PM Peak Hour			Daily	
	In	Out	Total	In	Out	Total		
Passenger Car	52	12	64	29	46	75	790	
Trucks								
2-Axle Trucks	1	1	2	0	0	0	19	
3-Axle Trucks	1	1	2	0	0	0	24	
4+ Axle Trucks	3	3	6	1	1	2	72	
Subtotal	5	5	10	1	1	2	115	
Total Vehicle Trips Generated	57	17	74	30	47	77	905	

PCE ³ TRIPS GENERATED								
Vehicle Type	PCE Factor ⁴	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Passenger Car	1.0	52	12	64	29	46	75	790
Trucks								
2-Axle Trucks	1.5	2	2	4	0	0	0	29
3-Axle Trucks	2.0	2	2	4	0	0	0	48
4+ Axle Trucks	3.0	9	9	18	3	3	6	216
Subtotal		13	13	26	3	3	6	293
Total PCE Trips Generated		65	25	90	32	49	81	1,083

Notes:

(1) TSF = Thousand Square Feet

(2) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = ITE Land Use Code.
SCAQMD = South Coast Air Quality Management District recommendations for non-cold storage high-cube warehouse.

(3) PCE = Passenger Car Equivalent

(4) Source: San Bernardino County Congestion Management Program (2016), Appendix B.