Harvest Landing Retail Center & Business Park Project

CONSTRUCTION AND OPERATIONAL HEALTH RISK ASSESSMENT

CITY OF PERRIS

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AQMD	Air Quality Management District
ASF	Age Sensitivity Factor
BHP	Brake Horsepower
BPIP	Building Profile Input Program
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
FAH	Fraction of Time at Home
HHD	Heavy Heavy-Duty
HI	Hazard Index
HRA	Health Risk Assessment
LHD	Light Heavy-Duty
MEIR	Maximally Exposed Individual Receptor
MEISC	Maximally Exposed Individual School Child
MEIW	Maximally Exposed Individual Worker
MHD	Medium Heavy-Duty
MM	Mitigation Measure
NAD	North American Datum
OEHHA	Office of Environmental Health Hazard Assessment
PM_{10}	Particulate Matter 10 microns in diameter or less
Project	Harvest Landing Retail Center & Business Park Project
REL	Reference Exposure Level
SCAQMD	South Coast Air Quality Management District
SJVAPCD	San Joaquin Valley Air Pollution Control District
TAC	Toxic Air Contaminant
TRU	Transport Refrigeration Unit
TTP	Truck Trailer Parking
URF	Unit Risk Factor

UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

This report evaluates the potential health risk impacts to sensitive receptors (including residents and school children) and adjacent workers caused by the development of the proposed Project, more specifically, health risk impacts as a result of exposure to Toxic Air Contaminants (TACs) including diesel particulate matter (DPM) resulting from heavy-duty diesel trucks that access the site and gasoline dispensing emissions. This section summarizes the significance criteria and Project health risks.

The results of the health risk assessment from Project-generated TAC emissions are provided in Tables ES-1 through ES-6.

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R7 which is located approximately 96 feet east of the Project site at the residences currently under construction at Barrett Avenue and West Placentia Avenue. Since there are no private outdoor living areas facing the Project site, receptor R7 is placed at the nearest building façade. At the maximally exposed individual receptor (MEIR) location, the maximum incremental cancer risk attributable to Project construction-source DPM emissions prior to mitigation is estimated at 4.46 in one million under the Without Overlay scenario and 4.26 in one million under the With Overlay scenario. With mitigation, the maximum incremental cancer risk is estimated at 1.08 in one million under the Without Overlay scenario and 1.03 in one million under the With Overlay scenario. As such, neither scenario would exceed the applicable South Coast Air Quality Management District (SCAQMD) significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be ≤0.01 under both scenarios with and without mitigation, which would not exceed the applicable threshold of 1.0.

Location R7 is the nearest receptor to the Project site and would experience the highest concentrations of DPM during Project construction due to its proximity to the Project site as well as meteorological conditions at the site. Because all other modeled receptors would experience lower concentrations of DPM during Project construction, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for these locations. The modeled receptors are illustrated on Exhibit 2-E.

OPERATIONAL IMPACTS

Residential Exposure Scenario:

The existing residential land use with the greatest potential exposure to Project operational-source DPM and gasoline dispensing emissions under both the With Overlay and Without Overlay scenarios is Location R7, which is located approximately 96 feet east of the Project site at the residences currently under construction at Barrett Avenue and West Placentia Avenue. Since there are no private outdoor living areas facing the Project site, R7 is placed at the building façade nearest the Project site. At the MEIR, before mitigation, the maximum incremental cancer risk attributable to Project operational-source TAC emissions is estimated at 12.99 in one million under the Without Overlay scenario and 12.32 in one million under the With Overlay scenario, both of which would exceed the SCAQMD significance threshold of 10 in one million, resulting in a potentially significant impact.

Therefore, Mitigation Measure HRA-1 has been included to reduce impacts. With mitigation cancer risk at the MEIR is reduced to 8.69 in one million without the overlay and 6.32 in one million with the overlay. As such, with mitigation the Project's operational-source TAC emissions would not exceed the SCAQMD significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be ≤0.01 under both scenarios, with and without mitigation, which would not exceed the applicable significance threshold of 1.0. Because all other modeled receptors are further from the Project site and would experience lower concentrations of TACs during Project operation, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore subject to less risk than the MEIR identified herein. As such, with mitigation the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project operational activity. All other receptors during operational activity would experience less risk than what is identified for this location. The modeled receptors are illustrated on Exhibit 2-E.

Worker Exposure Scenario[1]*:*

The worker receptor land use with the greatest potential exposure to Project operational -source TAC emissions is Location R10, which represents the potential worker receptor located approximately 105 feet east of the Project site. At the maximally exposed individual worker (MEIW) location, the maximum incremental cancer risk impact without mitigation is 2.06 in one million without the overlay and 1.91 in one million with the overlay. With mitigation, cancer risk at the MEIW would be 2.06 in one million without the overlay and 2.08 in one million with the overlay, all of which are less than the SCAQMD threshold of 10 in one million. It should be noted that the estimated cancer risk at the MEIW increased slightly with mitigation due to the placement of sources at the Project site resulting in lower concentrations in some locations and higher concentrations in others. Maximum non-cancer risks at this same location were estimated to be ≤0.01 under both scenarios with and without mitigation, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyzed herein, and TACs dissipate with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a

1 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

significant human health or cancer risk to adjacent workers. The modeled receptors are illustrated on Exhibit 2-E.

School Child Exposure Scenario:

Without the overlay the nearest potential school is the Val Verde Elementary School (represented by Location R9), located approximately 66 feet north of the Project site. With the overlay, the nearest potential school would be Perris Early Head Start (represented by Location R5), located approximately 720 feet east of the Project site. At the maximally exposed individual school child (MEISC) location, under the school child exposure scenario and without mitigation the maximum incremental cancer risk impact attributable to the Project is calculated to be 11.54 in one million at Location R9 without the overlay, and 2.73 in one million at Location R5 with the overlay. As such, prior to mitigation the Project's operational TAC emissions would exceed the SCAQMD 10 in one million significance threshold and result in a potentially significant impact for Val Verde Elementary School under the without overlay scenario. With mitigation, the cancer risk at the MEISC is estimated at 7.72 in one million at Location R9 without the overlay and 2.60 in one million with the overlay, both of which are less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be ≤0.01 under both scenarios, before and after mitigation, which would not exceed the applicable significance threshold of 1.0. As such, with mitigation the Project will not cause a significant human health or cancer risk to nearby school children.

CONSTRUCTION AND OPERATIONAL IMPACTS

The land use with the greatest potential exposure to Project construction-source and operational-source DPM and gasoline dispensing emissions is Location R7. At the MEIR location before mitigation, the maximum incremental cancer risk attributable to Project construction-source and operational-source TAC emissions is estimated at 17.45 in one million without the overlay and 16.58 in one million with the overlay, both of which would exceed the SCAQMD significance threshold of 10 in one million, resulting in a potentially significant impact. With mitigation, the maximum incremental cancer risk attributable to Project construction-source and operational-source DPM and gasoline dispensing emissions is estimated at 9.77 in one million without the overlay and 7.35 in one million with the overlay, both of which are less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be ≤0.01 under both scenarios before and after mitigation, which would not exceed the applicable threshold of 1.0. As such, with mitigation the Project will not cause a significant human health or cancer risk to nearby residences. The modeled receptors are illustrated on Exhibit 2-E.

TABLE ES-1: SUMMARY OF CONSTRUCTION CANCER AND NON-CANCER RISKS – WITHOUT MITIGATION

Scenario	Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
Without Overlay	5.16 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	4.46	10	NO
With Overlay	5.16 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	4.26	10	NO
Scenario	**Time Period**	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Without Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
With Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO

TABLE ES-2: SUMMARY OF CONSTRUCTION CANCER AND NON-CANCER RISKS – WITH MITIGATION

Scenario	Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
Without Overlay	5.16 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	1.08	10	NO
With Overlay	5.16 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	1.03	10	NO
Scenario	**Time Period**	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Without Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
With Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO

TABLE ES-3: SUMMARY OF OPERATIONAL CANCER AND NON-CANCER RISKS – WITHOUT MITIGATION

Scenario	Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
Without Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	12.99	10	YES
	25 Year Exposure	Maximum Exposed Worker Receptor (Location R10)	2.06	10	NO
	9 Year Exposure	Maximum Exposed Individual School Child (Location R9)	11.54	10	YES
With Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	12.32	10	YES
	25 Year Exposure	Maximum Exposed Worker Receptor (Location R10)	1.91	10	NO
	9 Year Exposure	Maximum Exposed Individual School Child (Location R5)	2.73	10	NO
Scenario	**Time Period**	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Without Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Worker Receptor (Location R10)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Individual School Child (Location R9)	≤0.01	1.0	NO
With Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Worker Receptor (Location R10)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Individual School Child (Location R5)	≤0.01	1.0	NO

TABLE ES-4: SUMMARY OF OPERATIONAL CANCER AND NON-CANCER RISKS – WITH MITIGATION

Scenario	Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
Without Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	8.69	10	NO
	25 Year Exposure	Maximum Exposed Worker Receptor (Location R10)	2.06	10	NO
	9 Year Exposure	Maximum Exposed Individual School Child (Location R9)	7.72	10	NO
With Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	6.32	10	NO
	25 Year Exposure	Maximum Exposed Worker Receptor (Location R10)	2.08	10	NO
	9 Year Exposure	Maximum Exposed Individual School Child (Location R5)	2.60	10	NO
Scenario	**Time Period**	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Without Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Worker Receptor (Location R10)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Individual School Child (Location R9)	≤0.01	1.0	NO
With Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Worker Receptor (Location R10)	≤0.01	1.0	NO
	Annual Average	Maximum Exposed Individual School Child (Location R5)	≤0.01	1.0	NO

TABLE ES-5: SUMMARY OF CONSTRUCTION AND OPERATIONAL CANCER AND NON-CANCER RISKS – WITHOUT MITIGATION

Scenario	Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
Without Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	17.45	10	YES
With Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	16.58	10	YES
Scenario	**Time Period**	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Without Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
With Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO

TABLE ES-6: SUMMARY OF CONSTRUCTION AND OPERATIONAL CANCER AND NON-CANCER RISKS – WITH MITIGATION

Scenario	Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
Without Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	9.77	10	NO
With Overlay	30 Year Exposure	Maximum Exposed Sensitive Receptor (Location R7)	7.35	10	NO
Scenario	**Time Period**	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Without Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO
With Overlay	Annual Average	Maximum Exposed Sensitive Receptor (Location R7)	≤0.01	1.0	NO

PROJECT MITIGATION MEASURES

The following mitigation measures (MMs) would result in quantifiable TAC emission reductions and were included in this analysis.

MITIGATION MEASURE MM AQ-2

Tier 4 Final. The construction plans and specifications shall state that off-road diesel construction equipment rated at 50 horsepower (hp) or greater, complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 4 Final off-road emissions standards or equivalent and shall keep all equipment maintenance records and data sheets, including design specifications and emission control tier classifications, onsite or at the contractor's office and shall furnish documents to the Lead Agency or other regulators, upon request. The Lead Agency shall conduct an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further.

MITIGATION MEASURE MM HRA-1

The Project shall incorporate at least one of the following measures, applicable to the Phase 2 parcel located east of Indian Avenue and west of Barrett Avenue:

- The Phase 2 parcel located east of Indian Avenue and west of Barrett Avenue shall be developed such that a minimum 1,000 foot setback between building loading docks and the residential development east of Barrett Avenue is incorporated. For the Without Overlay scenario, a 1,000 foot setback shall be incorporated between building loading docks and Val Verde Elementary School as well.
- Diesel-powered trucks shall be restricted from accessing the Phase 2 parcel located east of Indian Avenue and west of Barrett Avenue. Trucks accessing this parcel shall be electric-, hydrogen-, or natural gas-powered.
- At the time this analysis was performed, a detailed site plan was not available for Phase 2 of the Project site. As such, once site plans are available, a site specific HRA shall be prepared demonstrating that the Project would not exceed SCAQMD significance thresholds. If the site-specific HRA determines that the Project would not exceed SCAQMD significance thresholds, the first two measures of this Mitigation Measure shall not apply.

1 INTRODUCTION

This HRA has been prepared in accordance with the document Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1) and is comprised of all relevant and appropriate procedures presented by the United States Environmental Protection Agency (U.S. EPA), California EPA and SCAQMD. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten (10) persons per million as the maximum acceptable incremental cancer risk due to TAC exposure from a project such as the proposed Project. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulatively considerable impact.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (2). In this report, the AQMD states (Page D-3):

"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

The SCAQMD has also established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). A REL is a concentration level at or below which health effects are not likely to occur. A hazard index less of than one (1.0) means that adverse health effects are not expected. In this HRA, non-carcinogenic exposures of less than 1.0 are considered less-than-significant. Both the cancer risk and non-carcinogenic risk thresholds are applied to the nearest sensitive receptors below.

1.1 SITE LOCATION

The Project site includes approximately 358.28 acres and is generally bounded by I-215 to the west, Perris Boulevard to the east, Nuevo Road to the south, and Placentia Avenue to the north within the City of Perris, as shown on Exhibit 1-A. The Project site includes the current Harvest Landing Specific Plan (Specific Plan) area and parcels proposed to be annexed into the Specific Plan.

1.2 PROJECT DESCRIPTION

The Harvest Landing Specific Plan ("Specific Plan") currently covers 341.1 acres for residential, business, commercial, and open space uses. The proposed amendment will annex three parcels and add an overlay to a neighboring parcel, increasing the total Specific Plan area to 358.28 acres. It also revises the land use plan, replacing residential uses with business and commercial designations. The project will be developed in two phases. Phase 1 covers 235.79 acres (inclusive of water quality and roadway improvements), while Phase 2 covers 111.83-acres with a 10.66-acre Overlay[2] area, which lacks specific plans at this time. The maximum development density for Phase 2 is assessed programmatically in the Draft EIR, with future entitlements required for its development. A conceptual site plan is shown on Exhibit 1-B.

The proposed Project would include a total buildout of approximately 5,735,535 square feet of Multiple Business uses and 428,507 square feet of Commercial uses. The characteristics of each proposed industrial and commercial land uses for Phase 1, Phase 2 and Project Buildout are shown in Table 1-1. [3]

TABLE 1-1: PROJECT SQUARE FOOTAGE ASSUMPTIONS

Phase	Building No.	Building/Commercial Use Type	Proposed Square Footage
1 (2026)	1	Parcel Hub	322,079
	2	High-Cube Warehouse	389,000
	3	Light Industrial	113,500
	4	Light Industrial	60,000
	5	Light Industrial	25,000
	6	High-Cube Warehouse	509,000
	7	High-Cube Warehouse	309,000
		Phase 1 Total Industrial Square Footage	**1,727,579**
1 (2026)	Major A	Sporting Good Superstore	50,018
	Major B	Shopping Center	55,056
	Major B Mezzanine	Shopping Center	2,921
	Major C	Shopping Center	23,248
	Major D	Retail	15,012
	Major E	Supermarket	23,256
	Major F	Pet Supply Store	12,500
	Major G	Shopping Center	5,000
	Major H	Shopping Center	5,000
	Major J	Shopping Center	5,376

2 It should be noted that for purposes of analysis and conservative scenario, the 10.66-acre Overlay area of the Project was analyzed as a With Overlay Scenario and Without Overlay Scenario, as it is unknown at this time whether the Overlay area would be built out.

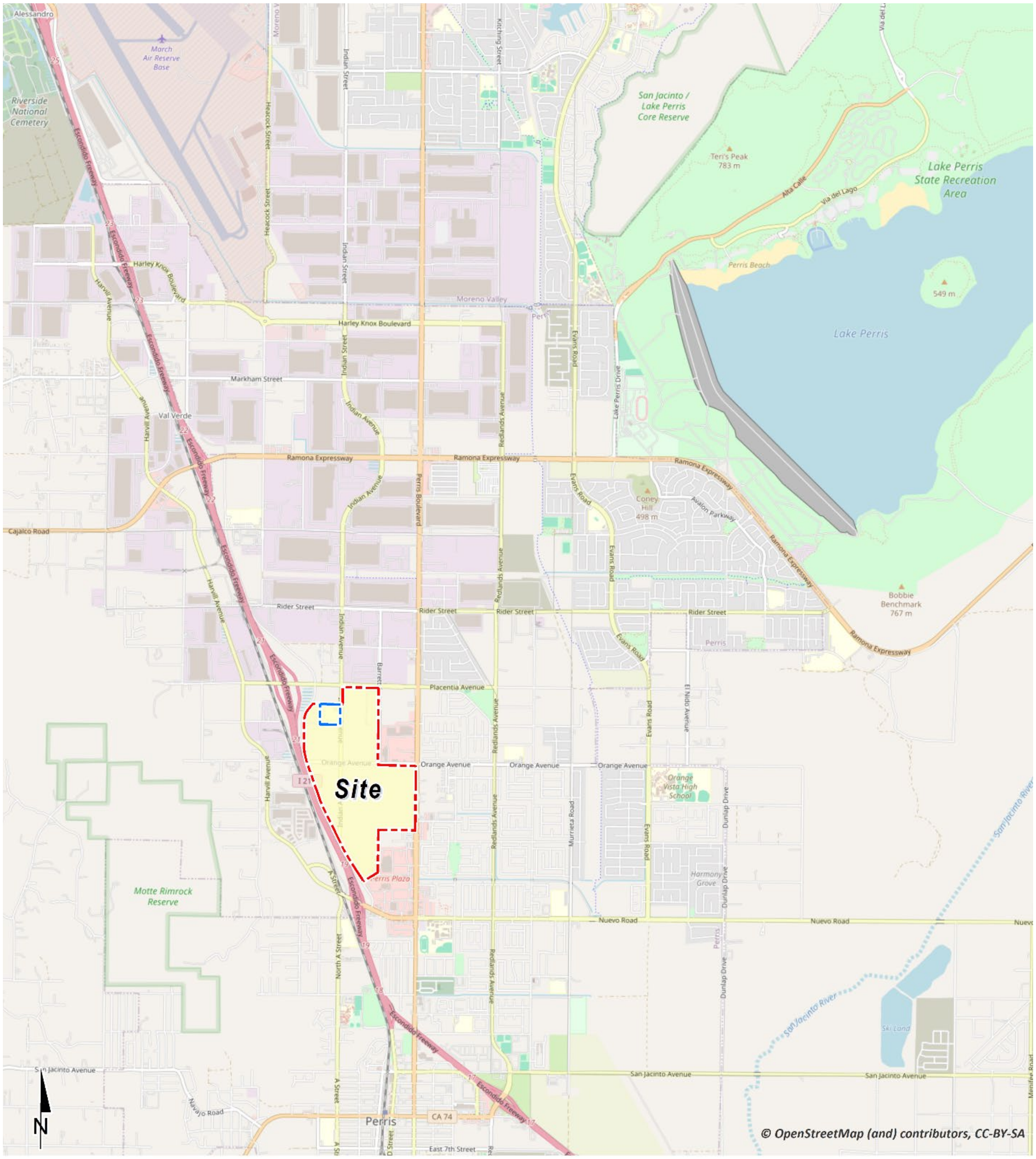
3 The Phase 2 buildout square footage of 4,007,955 SF was based on the gross acreage of parcels within the Phase 2 area prior to roadway dedications. After roadway dedications, the maximum allowable development within Phase 2 would actually be 4,001,748 SF. However, for purposes of providing a conservative analysis, a buildout of 4,007,955 SF was assumed.

Phase	Building No.	Building/Commercial Use Type	Proposed Square Footage
	Major K	Medical/Dental Office	5,500
	Pad 1	Fast Casual Restaurant	4,472
	Pad 2	Fast Casual Restaurant	4,100
	Pad 3	Fast Casual Restaurant	4,834
	Pad 4A	High-Turnover Sit-Down Restaurant	4,400
	Pad 4B	Shopping Center	4,542
	Pad 5	High-Turnover Sit-Down Restaurant	6,462
	Pad 6	Coffee with Drive-thru, indoor seating	1,800
	Pad 7A	Fast Casual Restaurant	2,408
	Pad 7B	Shopping Center	4,555
	Pad 7C	Shopping Center	2,145
	Pad 8	High-Turnover Sit-Down Restaurant	7,852
	N/A	Gasoline/Service Station (12 VFP)	10,228[1]
	N/A	Commercial Big Box Retail	167,050
	Pad A	Fast Casual Restaurant	5,500
	Pad B	Fast Casual Restaurant	5,500
		Phase 1 Total Commercial Square Footage	**428,507**
2 (2030)	N/A	Industrial Park	3,659,693
	N/A	Industrial Park (Overlay)	348,262
		Phase 2 Total Industrial Square Footage	**4,007,955**
		Project Buildout (Phase 1 + Phase 2) Total Industrial Square Footage	***5,735,535***
		Project Buildout (Phase 1 + Phase 2) Total Commercial Square Footage	***428,507***

[1]The square footage represents the gasoline/service station canopy and is presented here for modeling purposes. As such the Phase 1 total commercial square footage does not include the gasoline/service station canopy SF.

As evaluated in the Harvest Landing Retail Center & Business Park Project Traffic Analysis (3), the Project is expected to generate a total of 40,321 two-way trips per day at buildout, including 37,496 two-way passenger vehicle trips per day and 2,825 two-way truck trips per day.

EXHIBIT 1-A: LOCATION MAP



LEGEND:

Site Boundary | Overlay

EXHIBIT 1-B: SITE PLAN

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2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

This HRA is based on applicable guidelines to produce conservative estimates of human health risk posed by exposure to DPM and gasoline dispensing. The conservative nature of this analysis is due primarily to the following factors:

- The CARB-adopted diesel exhaust Unit Risk Factor (URF) of 300 in one million per µg/m^3 is based upon the upper 95 percentile of estimated risk for each of the epidemiological studies utilized to develop the URF. Using the 95th percentile URF represents a very conservative (health-protective) risk posed by DPM because it represents breathing rates that are high for the human body.
- The emissions derived assume that every truck accessing the Project site will idle for 15 minutes under the unmitigated scenario, and this is an overestimation of actual idling times and thus conservative.[4] The California Air Resources Board (CARB's) anti-idling requirements impose a 5-minute maximum idling time and therefore the analysis conservatively overestimates DPM emissions from idling by a factor of 3.

2.2 CONSTRUCTION HEALTH RISK ASSESSMENT

2.2.1 EMISSIONS CALCULATIONS

The emissions calculations for the construction HRA component are based on an assumed mix of construction equipment and hauling activity as presented in the *Harvest Landing Retail Center & Business Park Project Air Quality Impact Analysis* ("technical study") prepared by Urban Crossroads, Inc. (4).

Construction related DPM emissions are expected to occur primarily as a function of the operation of heavy-duty construction equipment.

As discussed in the technical study, the Project would result in approximately 1,347 total working-days of construction activity. The construction duration by phase is shown in Table 2-1. A detailed summary of construction equipment assumptions by phase is provided at Table 2-2. Based on information provided by the applicant, it is assumed that the construction schedule and construction equipment list would be identical under both the with and without overlay scenarios. The CalEEMod emissions outputs are presented in Appendix 2.1. The modeled emission sources for construction activity are illustrated on Exhibit 2-A. Emissions from construction equipment were modeled in AERMOD using volume sources covering the Project site.

[4] An idling time of 15 minutes per truck has been used per SCAQMD recommendations. Although the Project is required to comply with CARB's idling limit of 5 minutes, the SCAQMD recommends the on-site idling emissions should be estimated for 15 minutes of truck idling, which would take into account on-site idling that occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc.

TABLE 2-1: CONSTRUCTION DURATION

Phase	Construction Activity	Start Date	End Date	Working Days
Off-Site	Linear, Grading & Excavation	1/5/2026	1/29/2026	19
	Linear, Drainage, Utilities, & Sub-Grade	1/30/2026	2/17/2026	13
	Linear, Paving	2/18/2026	3/4/2026	11
Phase 1 (2026 OY)	Demolition/Crushing	11/3/2025	12/10/2025	28
	Site Preparation	12/11/2025	1/2/2026	17
	Grading	1/5/2026	3/4/2026	43
	Building Construction	3/5/2026	12/25/2026	212
	Paving	3/5/2026	12/25/2026	212
	Architectural Coating	3/5/2026	12/25/2026	212
Phase 2 (2030 OY)	Demolition	12/26/2026	10/2/2027	200
	Site Preparation	10/3/2027	3/19/2028	120
	Grading	3/20/2028	5/28/2029	310
	Building Construction	5/29/2029	12/31/2030	416
	Paving	2/27/2030	12/31/2030	220
	Architectural Coating	2/27/2030	12/31/2030	220

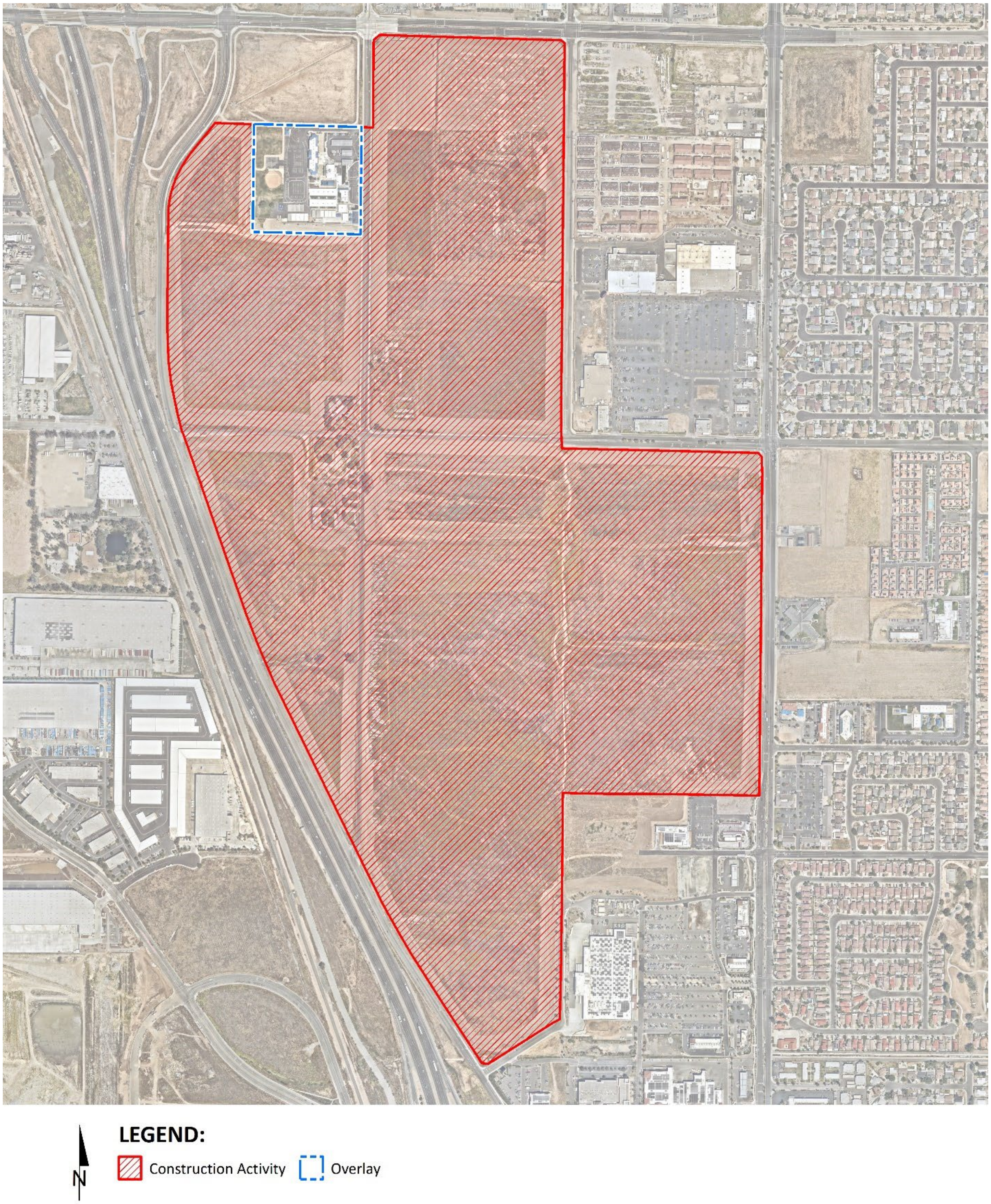
TABLE 2-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase	Construction Activity	Equipment	Quantity	Hours Per Day
Offsite	Linear, Grading & Excavation	Crawler Tractors	1	8
		Excavators	3	8
		Graders	1	8
		Rollers	2	8
		Rubber Tired Loaders	1	8
		Scrapers	2	8
		Signal Boards	3	8
		Tractors/Loaders/Backhoes	2	8
	Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	1	8
		Generator Sets	1	8
		Graders	1	8
		Plate Compactors	1	8

Phase	Construction Activity	Equipment	Quantity	Hours Per Day
		Pumps	1	8
		Rough Terrain Forklifts	1	8
		Scrapers	2	8
		Signal Boards	3	8
		Tractors/Loaders/Backhoes	2	8
	Linear, Paving	Pavers	1	8
		Paving Equipment	1	8
		Rollers	3	8
		Signal Boards	3	8
		Tractors/Loaders/Backhoes	2	8
Phase 1 (2026 OY)	Demolition/Crushing	Rubber Tired Dozers	4	8
		Excavators	6	8
		Concrete/Industrial Saws	2	8
		Crushing/Proc. Equipment	2	8
	Site Preparation	Rubber Tired Dozers	6	8
		Crawler Tractors	8	8
	Grading	Graders	6	8
		Excavators	12	8
		Crawler Tractors	12	8
		Scrapers	12	8
		Rubber Tired Dozers	3	8
		Bore/Drill Rigs	1	8
	Building Construction	Forklifts	18	8
		Generator Sets	6	8
		Cranes	6	8
		Welders	6	8
		Tractors/Loaders/Backhoes	18	8
	Paving	Pavers	12	8
		Paving Equipment	12	8
		Rollers	12	8
	Architectural Coating	Air Compressors	6	8
Phase 2 (2030 OY)	Demolition	Concrete/Industrial Saws	2	8
		Excavators	6	8
		Rubber Tired Dozers	4	8
		Rubber Tired Dozers	6	8

Phase	Construction Activity	Equipment	Quantity	Hours Per Day
	Site Preparation	Crawler Tractors	8	8
	Grading	Excavators	4	8
		Graders	2	8
		Rubber Tired Dozers	2	8
		Scrapers	4	8
		Crawler Tractors	4	8
	Building Construction	Cranes	2	8
		Forklifts	6	8
		Generator Sets	2	8
		Tractors/Loaders/Backhoes	6	8
		Welders	2	8
	Paving	Pavers	4	8
		Paving Equipment	4	8
		Rollers	4	8
	Architectural Coating	Air Compressors	2	8

EXHIBIT 2-A: MODELED CONSTRUCTION EMISSION SOURCES



2.3 OPERATIONAL HEALTH RISK ASSESSMENT

2.3.1 ON-SITE AND OFF-SITE TRUCK ACTIVITY

Vehicle DPM emissions were calculated using emission factors for particulate matter less than 10µm in diameter (PM_{10}) generated with the 2021 version of the EMission FACtor model (EMFAC) developed by the CARB. EMFAC 2021 is a mathematical model that CARB developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by CARB to project changes in future emissions from on-road mobile sources (5). The most recent version of this model, EMFAC 2021, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day.

Several distinct emission processes are included in EMFAC 2021. Emission factors calculated using EMFAC 2021 are expressed in units of grams per vehicle miles traveled (g/VMT) or grams per idle-hour (g/idle-hr), depending on the emission process. The emission processes and corresponding emission factor units associated with diesel particulate exhaust for this Project are presented below.

For this Project, annual average PM_{10} emission factors were generated by running EMFAC 2021 in EMFAC Mode for vehicles in the Riverside County jurisdiction. The EMFAC Mode generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed. The model was run for speeds traveled in the vicinity of the Project. The vehicle travel speeds for each segment modeled are summarized below:

- Idling – on-site loading/unloading and truck gate;
- 5 miles per hour – on-site vehicle movement including driving and maneuvering; and
- 25 miles per hour – off-site vehicle movement including driving and maneuvering.

It is expected that minimal idling would occur at nearby intersections during truck travel on study area roadways (e.g., at an intersection during a red light, or yielding to make a turn). Notwithstanding, the analysis conservatively utilizes a reduced off-site average speed of 25 miles per hour (below the posted speed limit) for travel on study area roadways. Use of this lower average speed for off-site travel results in a higher emission factor, and therefore any negligible idling that occurs during truck travel along the study area would be accounted for.

Calculated emission factors are shown at Table 2-3. As a conservative measure, a 2030 EMFAC 2021 run was conducted and a static 2030 emissions factor data set was used for the entire duration of analysis herein (e.g., 30 years). Use of 2030 emission factors would overstate potential impacts since this approach assumes that emission factors remain "static" and do not change over time due to fleet turnover or cleaner technology with lower emissions that would be incorporated into vehicles after 2030. Additionally, based on EMFAC 2021, 59.8% of Light-Heavy-Duty Trucks are assumed to be diesel-powered, 92.6% of Medium-Heavy-Duty Trucks are assumed to be diesel-powered, and 94.7% of Heavy-Heavy-Duty Trucks are assumed to be diesel-powered for purposes of deriving emission factors. Appendix 2.2 includes additional details on the emissions estimates from EMFAC.

The vehicle DPM exhaust emissions were calculated for running exhaust emissions. The running exhaust emissions were calculated by applying the running exhaust PM_{10} emission factor (g/VMT) from EMFAC over the total distance traveled. The following equation was used to estimate off-site emissions for each of the different vehicle classes comprising the mobile sources (6):

$$Emissions_{Speed\ A} = EF_{Run\ Exhaust} \times Distance \times \frac{Number\ of\ Trips\ per\ Day}{Seconds\ per\ Day}$$

Where:

$Emissions_{Speed\ A}$	=	Vehicle emissions at a given speed A (g/s)
$EF_{Run\ Exhaust}$	=	EMFAC running exhaust PM_{10} emission factor at speed A (g/vmt)
$Distance$	=	Total distance traveled per trip (miles)

Similar to off-site traffic, on-site vehicle running emissions were calculated by applying the running exhaust PM_{10} emission factor (g/VMT) from EMFAC and the total vehicle trip number over the length of the driving path using the same formula presented above for on-site emissions. In addition, on-site vehicle idling exhaust emissions were calculated by applying the idle exhaust PM_{10} emission factor (g/idle-hr) from EMFAC and the total truck trip over the total assumed idle time (15 minutes at building loading docks and 5 minutes at truck trailer parking areas). The following equation was used to estimate the on-site vehicle idling emissions for each of the different vehicle classes (6):

$$Emissions_{Idle} = EF_{Idle} \times Number\ of\ Trips \times Idling\ Time \times \frac{60\ minutes\ per\ hour}{seconds\ per\ day}$$

Where:

$Emissions_{Idle}$	=	Vehicle emissions during Idling (g/s)
EF_{Idle}	=	EMFAC idle exhaust PM_{10} emission factor (g/s)
$Number\ of\ Trips$	=	Number of trips per day
$Idling\ Time$	=	Idling time (minutes per trip)

TABLE 2-3: 2030 WEIGHTED AVERAGE DPM EMISSIONS FACTORS

Phase	Speed	Weighted Average
Phase 1	0 (idling)	0.09928 (g/idle-hr)
	5	0.01253 (g/mile)
	25	0.00634 (g/mile)
Phase 2	0 (idling)	0.09870 (g/idle-hr)
	5	0.01251 (g/mile)
	25	0.00633 (g/mile)

Each roadway was modeled as a line source (made up of multiple adjacent volume sources). Due to the large number of volume sources modeled for this analysis, the corresponding coordinates of each volume source have not been included in this report but are included in Appendix 2.3. The DPM emission rate for each volume source was calculated by multiplying the emission factor (based on the average travel speed along the roadway) by the number of trips and the distance traveled along each roadway segment and dividing the result by the number of volume sources along that roadway, as illustrated in Table 2-4. The modeled emission sources are illustrated on Exhibit 2-B and 2-C for the With Overlay Scenario and Without Overlay Scenario for on-site sources and Exhibit 2-D for off-site sources. It should be noted that because a site plan is not available at this time detailing the locations of buildings and roadways in Phase 2, operational emissions that would occur for Phase 2 were modeled using volume sources placed over the site. The modeling domain is limited to the Project's primary truck route and includes off-site sources in the study area for more than ¾ mile. This modeling domain is more inclusive and conservative than using only a ¼ mile modeling domain which is the distance supported by several reputable studies which conclude that the greatest potential risks occur within a ¼ mile of the primary source of emissions (7). In the case of the Project, the primary source of emissions is the on-site idling and on-site travel.

On-site truck idling was estimated to occur as trucks enter and travel through the Project site. Although the Project's diesel-fueled truck and equipment operators will be required by State law to comply with CARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions be calculated assuming 15 minutes of truck idling (8), which would take into account on-site idling which occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc. As such, this analysis assumes each truck would idle for 15 minutes at building loading docks, consistent with SCAQMD's recommendation. Additionally, the analysis conservatively assumed that idling may occur at truck trailer parking (TTP) locations throughout the Project site for 5 minutes.

2.3.2 ON-SITE GASOLINE DISPENSING

Guidance and emission factors from CARB's Gasoline Service Station Industrywide Risk Assessment Technical Guidance Report were used to model emissions from the loading, breathing, fuel dispensing, spillage, and hose permeation associated with the proposed gasoline service station (9). Refueling and hose permeation emissions were modeled using volume sources with a release height of 1 meter and an initial vertical dimension of 2.33 meters. Loading and breathing emissions were modeled using point sources with a stack height of 3.66 meters and a stack diameter of 0.051 meters. Spillage emissions were modeled using volume sources with a release height of 0 meters and an initial vertical dimension of 2.33 meters. It should be noted that the gasoline dispensing health risk is a part of the overall risk disclosed in section 2.7 of this analysis.

2.3.3 EMERGENCY ENGINES

The proposed Project, for both Scenario A and Scenario B was conservatively assumed to include installation of seven emergency fire pumps and five emergency generators in Phase 1, each diesel-powered and rated at 300-horsepower. Because building layouts and locations for Phase 2 are not known at this time, the analysis did not include potential emergency generators or fire pumps for Phase 2. The fire pumps and emergency generators were each estimated to operate for up to 1 hour per day, 1 day per week for up to 50 hours per year for maintenance and testing purposes. Emissions associated with the stationary diesel-powered emergency fire pumps and emergency generators were calculated using CalEEMod. Consistent with SCAQMD guidance, the emergency engines were modeled as point sources. Because detailed engine specifications are not known at this time, release parameters (including exhaust height, diameter, temperature, and flow rate) were obtained from the California Air Pollution Control Officers Association Facility Prioritization Guidelines (10). In order to account for potential building downwash effects, which have the potential to affect point sources in AERMOD, building downwash was modeled using the Building Profile Input Program (BPIP).

EXHIBIT 2-B: MODELED ON-SITE EMISSION SOURCES - WITH OVERLAY

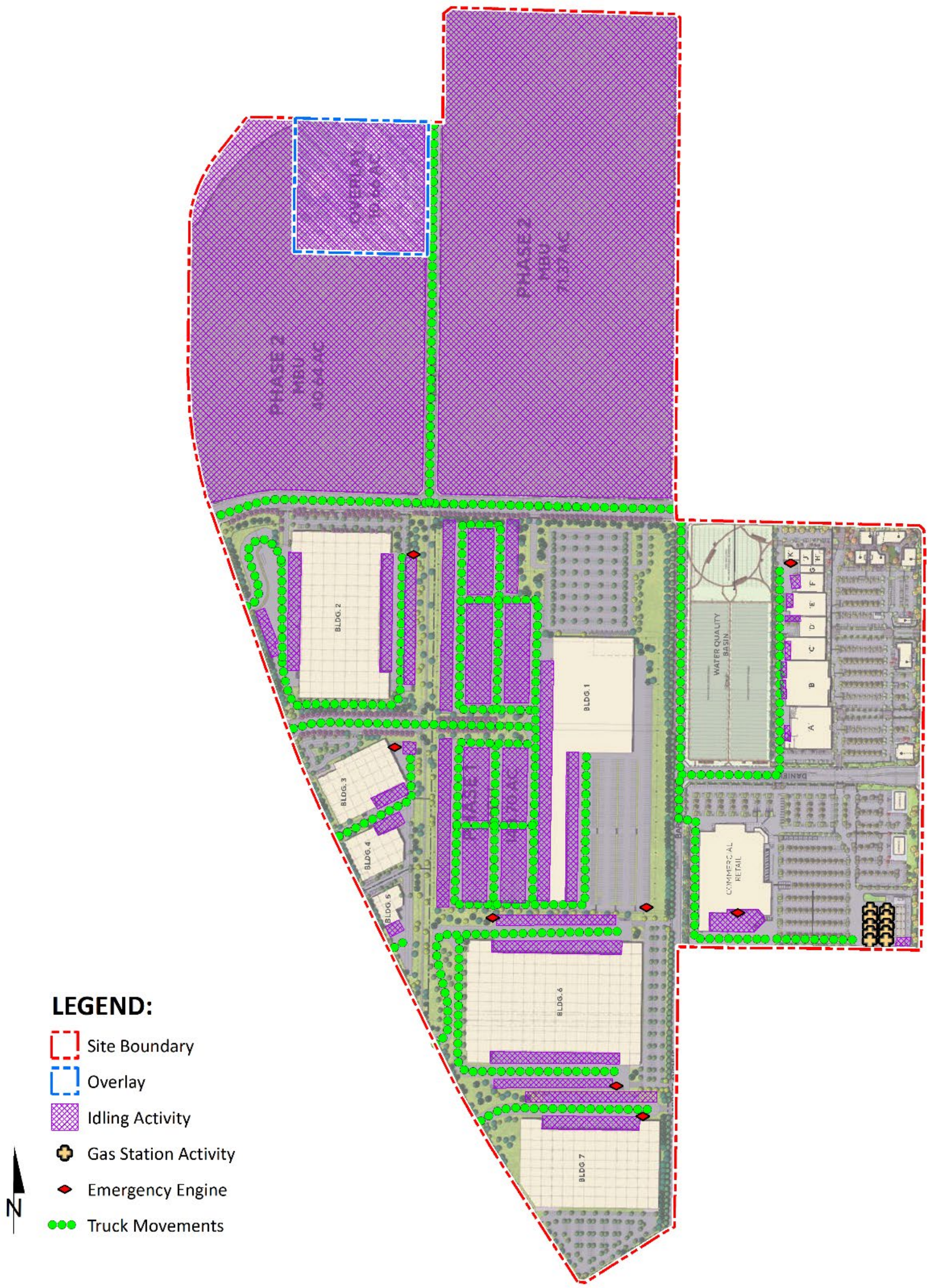


EXHIBIT 2-C: MODELED ON-SITE EMISSION SOURCES - WITHOUT OVERLAY

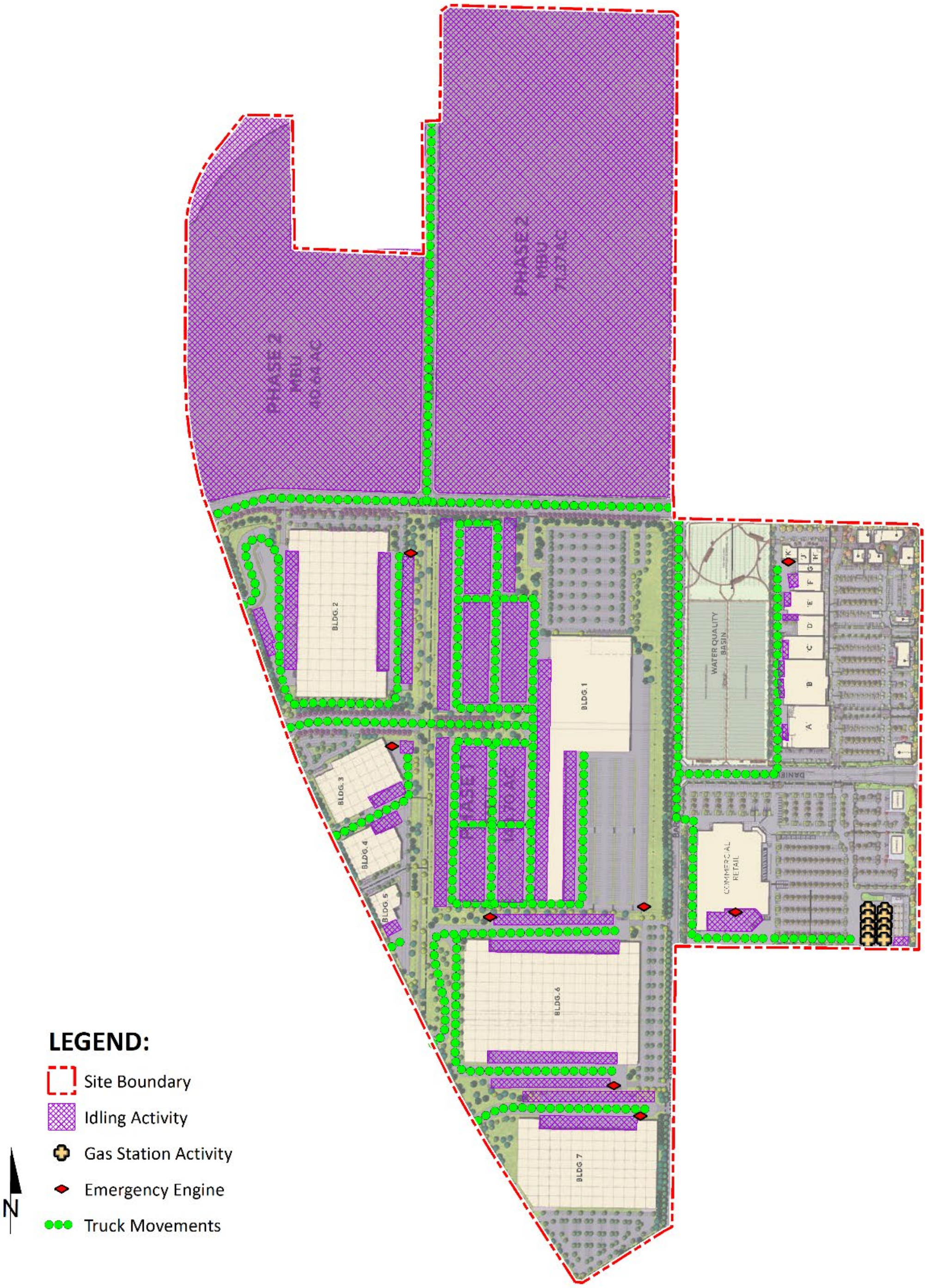


EXHIBIT 2-D: MODELED OFF-SITE EMISSION SOURCES

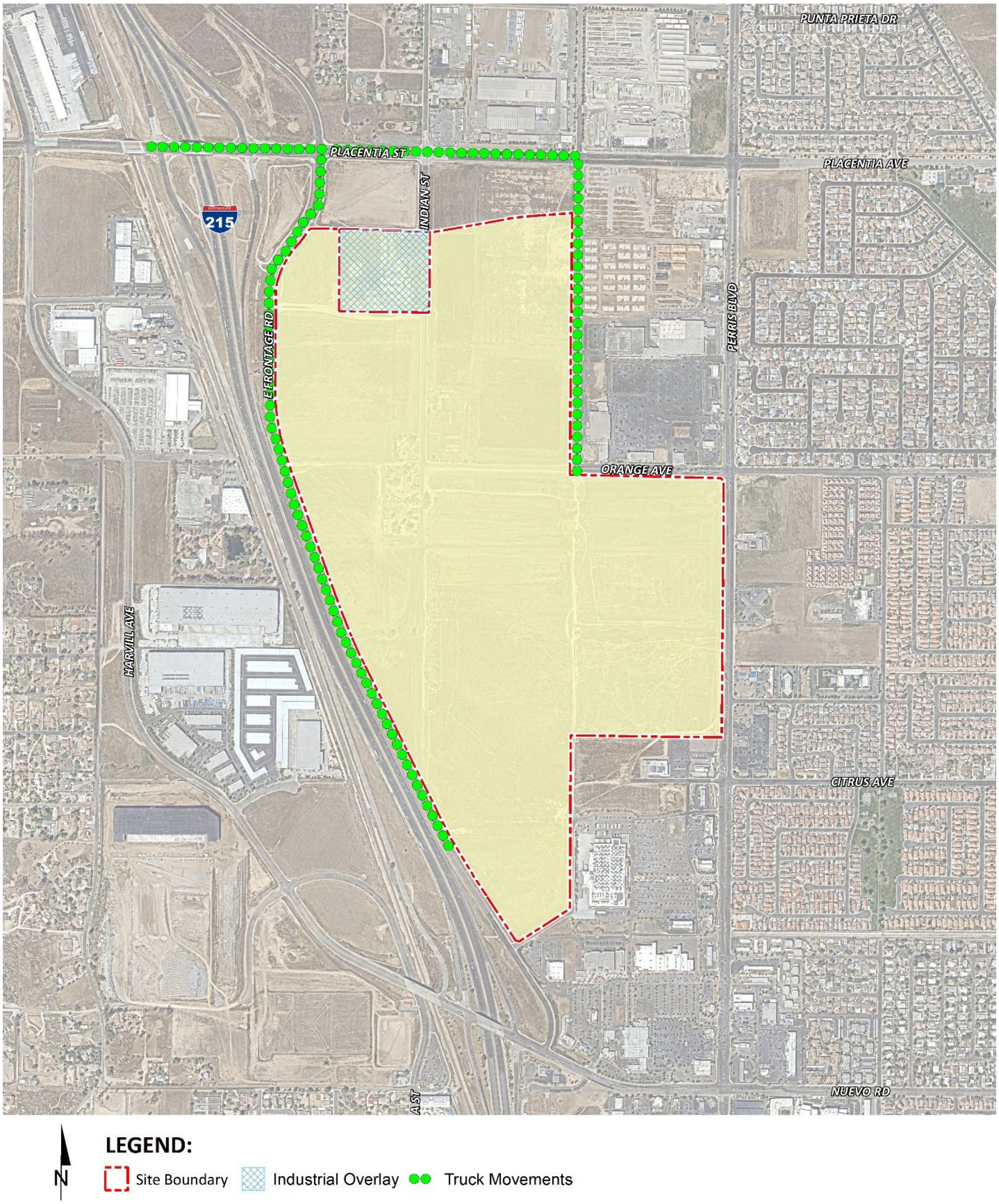


TABLE 2-4: DPM EMISSIONS FROM PROJECT TRUCKS (2030 ANALYSIS YEAR)

Truck Emission Rates						
Source	Trucks Per Day	VMT [a] (miles/day)	Truck Emission Rate [b] (grams/mile)	Truck Emission Rate [b] (grams/idle-hour)	Daily Truck Emissions [c] (grams/day)	Modeled Emission Rates (g/second)
On-Site Idling - Bldg 1	93			0.0993	2.31	2.671E-05
On-Site Idling - Bldg 2	43			0.0993	1.07	1.236E-05
On-Site Idling - Bldg 3	26			0.0993	0.65	7.473E-06
On-Site Idling - Bldg 4	14			0.0993	0.34	3.951E-06
On-Site Idling - Bldg 5	6			0.0993	0.14	1.646E-06
On-Site Idling - Bldg 6	56			0.0993	1.40	1.617E-05
On-Site Idling - Bldg 7	34			0.0993	0.85	9.818E-06
On-Site Idling - Commercial	14			0.2120	0.74	8.588E-06
On-Site Idling - Gas Station	1			0.0111	0.00	3.202E-08
On-Site Idling - Phase 2	1,041			0.0987	25.69	2.973E-04
On-Site Idling - Phase 1 Truck Trailer Parking	272			0.0993	2.25	2.604E-05
On-Site Idling - Phase 2 Truck Trailer Parking	1,041			0.0987	8.56	9.910E-05
On-Site Travel - Bldg 1 A	186	166.81	0.0125		2.09	2.418E-05
On-Site Travel - Bldg 1 B	186	24.85	0.0125		0.31	3.603E-06
On-Site Travel - Bldg 1 C	186	41.04	0.0125		0.51	5.950E-06
On-Site Travel - Bldg 1 D	186	50.49	0.0125		0.63	7.321E-06
On-Site Travel - Bldg 1 Drivew ay	186	42.29	0.0125		0.53	6.131E-06
On-Site Travel - Bldg 2	86	44.01	0.0125		0.55	6.380E-06
On-Site Travel - Bldg 3	52	7.29	0.0125		0.09	1.057E-06
On-Site Travel - Bldg 4	28	2.02	0.0125		0.03	2.926E-07
On-Site Travel - Bldg 5	11	1.56	0.0125		0.02	2.263E-07
On-Site Travel - Bldg 6 N 50%	56	17.04	0.0125		0.21	2.470E-06
On-Site Travel - Bldg 6 S 50%	56	24.41	0.0125		0.31	3.539E-06
On-Site Travel - Bldg 7	68	11.01	0.0125		0.14	1.597E-06
On-Site Travel - Commercial	16	3.27	0.0152		0.05	5.771E-07
Off-Site Travel - Frontage Rd. 100% Inbound/Outbound	2,626	1822.31	0.0063		11.54	1.336E-04
Off-Site Travel - Frontage Rd. 60% Inbound/Outbound	1,576	191.89	0.0063		1.22	1.407E-05
Off-Site Travel - Frontage Rd. 20% Inbound/Outbound	525	340.67	0.0063		2.16	2.498E-05
Off-Site Travel - Orange Ave. 40% Inbound/Outbound	218	70.30	0.0063		0.45	5.154E-06
Off-Site Travel - Placentia Ave. Commercial Inbound/Outbound	30	20.51	0.0071		0.15	1.689E-06
Off-Site Travel - Barrett Ave. Commercial Inbound/Outbound	30	22.99	0.0071		0.16	1.894E-06
Off-Site Travel - Daniela Commercial 53% Inbound/Outbound	16	1.56	0.0071		0.01	1.282E-07
Off-Site Travel - Perris Blvd. Commercial 47% Inbound/Outbound	14	5.60	0.0071		0.04	4.610E-07

[a] Vehicle miles traveled are for modeled truck route only.

[b] Emission rates determined using EMFAC 2021. Idle emission rates are expressed in grams per idle hour rather than grams per mile.

[c] This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes at loading docks and 5 minutes at parking spaces.

2.4 EXPOSURE QUANTIFICATION

The analysis herein has been conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1). The Environmental Protection Agency's (U.S. EPA's) AERMOD model has been utilized. For purposes of this analysis, the Lakes AERMOD View (Version 12.0.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View was utilized to incorporate the U.S. EPA's latest AERMOD Version 23132 (11).

The model offers additional flexibility by allowing the user to assign an initial release height and vertical dispersion parameters for mobile sources representative of a roadway. For this HRA, the roadways were modeled as adjacent volume sources. Roadways were modeled using the U.S. EPA's haul route methodology for modeling of on-site and off-site truck movement. More specifically, the Haul Road Volume Source Calculator in Lakes AERMOD View has been utilized to determine the release height parameters. Based on the US EPA methodology, the Project's modeled sources would result in a release height of 3.49 meters and an initial lateral dimension of 4.0 meters, and an initial vertical dimension of 3.25 meters.

Model parameters are presented in Table 2-6 (12). The model requires additional input parameters including emission data and local meteorology. Meteorological data from the SCAQMD's Perris monitoring station was used to represent local weather conditions and prevailing winds (13).

TABLE 2-6: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban (population 2,189,641)
Terrain (Flat/Elevated)	Elevated (Regulatory Default)
Averaging Time	1 year (5-year Meteorological Data Set)
Receptor Height	0 meters (Regulatory Default)

Universal Transverse Mercator (UTM) coordinates for World Geodetic System (WGS) 84 were used to locate the Project site boundaries, each volume source location, and receptor locations in the Project vicinity. The AERMOD dispersion model summary output files for the Project are presented in Appendix 2.3. Modeled sensitive receptors were placed at residential and non-residential locations.

Receptors may be placed at applicable structure locations for residential and worker property and not necessarily the boundaries of the properties containing these uses because the human receptors (residents and workers) spend a majority of their time at the residence or in the workplace's building, and not on the property line. It should be noted that the primary purpose of receptor placement is focused on long-term exposure. For example, the HRA evaluates the potential health risks to residents, workers, and school children over a period of 30, 25, or 9 years of exposure, respectively. Notwithstanding, as a conservative measure, receptors were placed at either the outdoor living area or the building façade, whichever is closer to the Project site.

For purposes of this HRA, receptors include both residential and non-residential (worker and school) land uses in the vicinity of the Project. These receptors are included in the HRA since residents, workers, and school children may be exposed at these locations over a long-term duration of 30, 25, and 9 years, respectively. This methodology is consistent with SCAQMD and OEHHA recommended guidance.

Any impacts to residents or workers located further away from the Project site than the modeled residents, workers, and schoolchildren would have a lesser impact than what has already been disclosed in the HRA at the MEIR and MEIW locations because concentrations dissipate with distance.

All receptors were set to existing elevation height so that only ground-level concentrations are analyzed. United States Geological Survey (USGS) National Elevation Dataset (NED) terrain data using AERMAP was utilized in the HRA modeling to set elevations (14).

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 OEHHA Guidelines. Tables 2-7 summarizes the exposure parameters for construction based on 2015 OEHHA Guidelines. Appendix 2.4 includes the detailed risk calculation. Operational risk calculations were performed using CARB's Hotspots Analysis and Reporting Program (HARP2).

TABLE 2-7: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (CONSTRUCTION ACTIVITY)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
-0.25 to 0	361	10	0.25	1.00	250	8
0 to 2	1,090	10	2.00	1.00	250	8
2 to 16	572	3	2.91	1.00	250	8

2.5 CARCINOGENIC CHEMICAL RISK

Excess cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens over a specified exposure duration. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level of 10 in one million implies a likelihood that up to 10 people, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time.

In order to estimate impacts from truck, emergency engine, and gasoline dispensing emissions during Project operational activities, health risk was calculated using HARP2, version 22118 (15). HARP2 calculates cancer and non-cancer health risk based on the 2015 OEHHA Guidelines. Appendix 2.3 includes the detailed risk calculation and Appendix 2.4 includes the HARP2 model outputs.

Based on guidance from CARB and the California Environmental Protection Agency, OEHHA recommends a refinement to the standard point estimate approach when alternate human body weights and breathing rates are utilized to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to assess exposures, the following dose algorithm was utilized.

$$DOSE_{AIR} = \left(C_{AIR} \times \frac{BR}{BW} \times A \times EF\right) \times (1 \times 10^{-6})$$

Where:

$DOSE_{AIR}$	=	chronic daily intake (mg/kg/day)
C_{AIR}	=	concentration of contaminant in air (µg/m^3)
$\frac{BR}{BW}$	=	daily breathing rate normalized to body weight (L/kg BW-day)
A	=	inhalation absorption factor
EF	=	exposure frequency (days/365 days)
BW	=	body weight (kg)
1×10^{-6}	=	conversion factors (µg to mg, L to m^3)

$$RISK_{AIR} = DOSE_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

Where:

$DOSE_{AIR}$	=	chronic daily intake (mg/kg/day)
CPF	=	cancer potency factor
ASF	=	age sensitivity factor
FAH	=	fraction of time at home
ED	=	number of years within particular age group
AT	=	averaging time

2.6 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The chronic reference exposure level (REL) for DPM was established by OEHHA as 5 μg/m³ (16).

Non-cancer health effects are expressed as a hazard index (HI), which is calculated using the following equation:

$$HI_{DPM} = \frac{C_{DPM}}{REL_{DPM}}$$

Where:

HI_{DPM}	=	Hazard index (unitless)
C_{DPM}	=	Annual average DPM concentration (μg/m³)
REL_{DPM}	=	REL for DPM (the DPM concentration at which no adverse health effects are anticipated).

2.7 POTENTIAL PROJECT DPM & GASOLINE DISPENSING-SOURCE CANCER AND NON-CANCER RISKS

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R7 which is located approximately 96 feet east of the Project site at the residences currently under construction at Barrett Avenue and West Placentia Avenue. Since there are no private outdoor living areas facing the Project site, receptor R7 is placed at the nearest building façade. At the MEIR location, the maximum incremental cancer risk attributable to Project construction-source DPM emissions prior to mitigation is estimated at 4.46 in one million under the Without Overlay scenario and 4.26 in one million under the With Overlay scenario. With mitigation, the maximum incremental cancer risk is estimated at 1.08 in one million under the Without Overlay scenario and 1.03 in one million under the With Overlay scenario. As such, neither scenario would exceed the applicable SCAQMD significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be ≤0.01 under both scenarios with and without mitigation, which would not exceed the applicable threshold of 1.0.

Location R7 is the nearest receptor to the Project site and would experience the highest concentrations of DPM during Project construction due to its proximity to the Project site as well as meteorological conditions at the site. Because all other modeled receptors would experience lower concentrations of DPM during Project construction, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for these locations. The modeled receptors are illustrated on Exhibit 2-E.

OPERATIONAL IMPACTS

Residential Exposure Scenario:

The existing residential land use with the greatest potential exposure to Project operational-source DPM emissions is Location R7, which is located approximately 96 feet east of the Project site at the residences currently under construction at Barrett Avenue and West Placentia Avenue. Since there are no private outdoor living areas facing the Project site, R7 is placed at the building façade nearest the Project site. At the MEIR, before mitigation the maximum incremental cancer risk attributable to Project operational-source TAC emissions is estimated at 12.99 in one million under the Without Overlay scenario and 12.32 in one million under the With Overlay scenario, both of which would exceed the SCAQMD significance threshold of 10 in one million, resulting in a potentially significant impact. However, with mitigation cancer risk at the MEIR is reduced to 8.69 in one million without the overlay and 6.32 in one million with the overlay. As such, with mitigation, the Project's operational-source TAC emissions would not exceed the SCAQMD significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be ≤0.01 under both scenarios, with and without mitigation, which would not exceed the applicable significance threshold of 1.0. Because all other modeled receptors are further from the Project site and would experience lower concentrations of TACs during Project operation, all other receptors in the vicinity of the Project would be exposed to less emissions and therefore subject to less risk than the MEIR identified herein. As such, with mitigation the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project operational activity. All other receptors during operational activity would experience less risk than what is identified for this location. The modeled receptors are illustrated on Exhibit 2-E.

Worker Exposure Scenario[5]:

The worker receptor land use with the greatest potential exposure to Project operational -source TAC emissions is Location R10, which represents the potential worker receptor located approximately 105 feet east of the Project site. At the MEIW location, the maximum incremental cancer risk impact without mitigation is 2.06 in one million without the overlay and 1.91 in one million with the overlay. With mitigation, cancer risk at the MEIW would be 2.06 in one million without the overlay and 2.08 in one million with the overlay, all of which are less than the SCAQMD threshold of 10 in one million. It should be noted that the estimated cancer risk at the MEIW increased slightly with mitigation due to the placement of sources at the Project site resulting in lower concentrations in some locations and higher concentrations in others. Maximum non-cancer risks at this same location were estimated to be ≤0.01 under both scenarios with and without mitigation, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyzed herein, and TACs dissipate with distance from the source, all other

5 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. The modeled receptors are illustrated on Exhibit 2-E.

School Child Exposure Scenario:

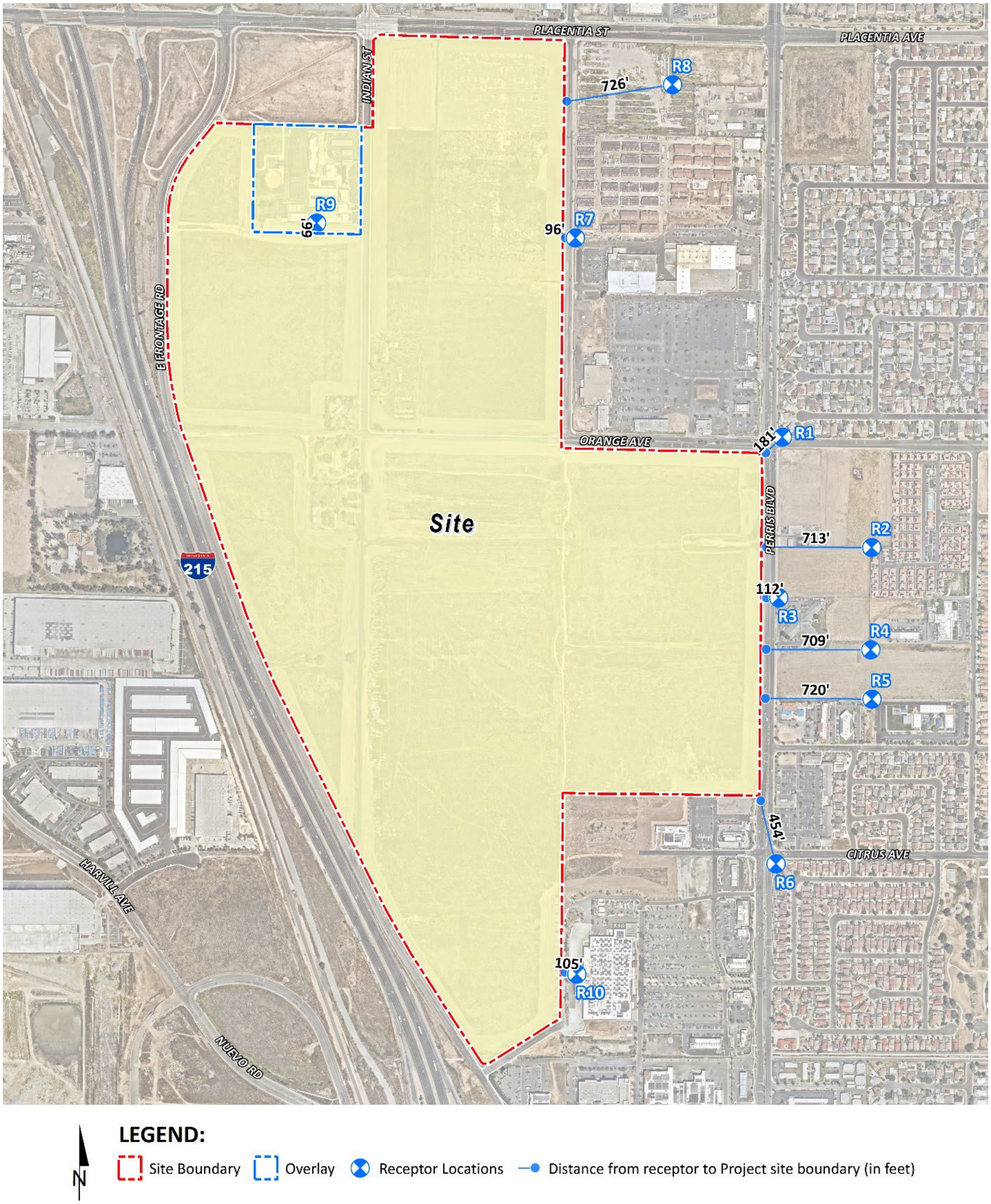
Without the overlay the nearest potential school is the Val Verde Elementary School (represented by Location R9), located approximately 66 feet north of the Project site. With the overlay, the nearest potential school would be Perris Early Head Start (represented by Location R5), located approximately 720 feet east of the Project site. At the MEISC location, under the school child exposure scenario and without mitigation the maximum incremental cancer risk impact attributable to the Project is calculated to be 11.54 in one million at Location R9 without the overlay, and 2.73 in one million at Location R5 with the overlay. As such, prior to mitigation the Project's operational TAC emissions would exceed the SCAQMD 10 in one million significance threshold and result in a potentially significant impact for Val Verde Elementary School under the without overlay scenario. With mitigation, the cancer risk at the MEISC is estimated at 7.72 in one million at Location R9 without the overlay and 2.60 in one million with the overlay, both of which are less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be ≤0.01 under both scenarios, before and after mitigation, which would not exceed the applicable significance threshold of 1.0. As such, with mitigation the Project will not cause a significant human health or cancer risk to nearby school children.

CONSTRUCTION AND OPERATIONAL IMPACTS

The land use with the greatest potential exposure to Project construction-source and operational-source DPM emissions is Location R7. At the MEIR location before mitigation, the maximum incremental cancer risk attributable to Project construction-source and operational-source TAC emissions is estimated at 17.45 in one million without the overlay and 16.58 in one million with the overlay, both of which would exceed the SCAQMD significance threshold of 10 in one million, resulting in a potentially significant impact. With mitigation, the maximum incremental cancer risk attributable to Project construction-source and operational-source DPM emissions is estimated at 9.77 in one million without the industrial overlay and 7.35 in one million with the overlay, both of which are less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be ≤0.01 under both scenarios before and after mitigation, which would not exceed the applicable threshold of 1.0. As such, with mitigation the Project will not cause a significant human health or cancer risk to nearby residences. The modeled receptors are illustrated on Exhibit 2-D.

It should be noted that for clarity purposes, the receptors presented in Exhibit 2-E do not represent all modeled receptors. A total of 78 receptors extending up to five miles from the Project site were included in the modeling. Appendix 2.5 presents a figure detailing the locations of all receptors as modeled in AERMOD.

EXHIBIT 2-E: RECEPTOR LOCATIONS



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3 CUMULATIVE HEALTH RISKS

3.1 BACKGROUND

The purpose of this section is to provide additional background and analysis of the potential cumulative health risk impacts resulting from any existing and proposed warehouse uses in the vicinity of the proposed Project.

3.2 HEALTH RISK FROM CUMULATIVE CRITERIA POLLUTANTS

SCAQMD and the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) filed Amicus Curiae Briefs (amicus briefs) in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (F*riant Ranch*) (17) (18). In both amicus briefs, SCAQMD and SJVAPCD provided technical explanations as to why it may not be feasible or reliable for a project to relate the expected adverse air quality impacts to likely health consequences.

As summarized below, for the reasons set forth in the SCAQMD and SJVAPCD amicus briefs, the proposed Project's significant cumulative air quality impacts currently cannot feasibly be related to likely health consequences in an accurate or reliable manner. Although methods are being developed to determine health effects from large regional scale projects, the technical demands to feasibly and accurately relate the adverse air quality impacts to likely health consequences are too high for this Project at this time. The technical challenges are listed below, with the SCAQMD and SJVAPCD amicus briefs providing support on the findings for the Project:

- Ozone is not formed at the location of sources/emissions, which necessitates the use of complex and more sophisticated modeling that is not reasonably feasible for the proposed Project at this time. "For the so-called criteria pollutants, such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NOx) and volatile organic compounds (VOC) in the presence of sunlight… It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources." [SCAQMD brief, p.11]

- The quantity of precursor emissions is not proportional to local ozone and secondary PM concentration, which necessitates the use of complex and more sophisticated modeling that is not reasonably feasible for the proposed Project at this time. "Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight. Once formed, ozone can be transported long distances by wind. Because of the complexity of ozone formation, a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area." [SJVAPCD brief, p.4]

- "Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SOx) and NOx.

Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area." [SJVAPCD brief, p.5]

- Emissions do not cause health effects – it is the resulting concentration of criteria pollutants, which is influenced by sunlight, complex reactions, and transport, which necessitates the use of complex and more sophisticated modeling that is not reasonably feasible for this Project at this time. "The disconnect between the tonnage of precursor pollutants (NOx, SOx and VOCs) and the concentration of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM." [SJVAPCD brief, p.5]

- Currently available modeling tools are appropriate for regional evaluations, but not individual projects like the proposed Project. "For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley… the models simulate future ozone or PM levels based on predicted changes in precursor emissions Valley wide… The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which all of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment." [SJVAPCD brief, p.6-7]. "Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project level impact analysis but one of regional, "cumulative impacts."" [SJVAPCD brief, p.8] "...the currently available modeling tools are equipped to model the impact of all emission sources in the Valley on attainment... Running the photochemical grid model used for predicting ozone attainment with the emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved." [SJVAPCD brief, p.9-10]

- SJVAPCD indicates that it is currently impossible to accurately correlate project level emissions to specific health impacts. "Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level." [SJVAPCD brief, p.10]

- SCAQMD highlights that CARB indicated that a CARB methodology of analysis for $PM_{2.5}$ health impacts is not suited for a project such as this one. "Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$… SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or 1,029 tons/year… However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties." "Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts." [SCAQMD brief, p.14]. For the proposed Project at buildout, the maximum operational emissions of $PM_{2.5}$ are 129.21 lbs/day under Option A and 143.31 lbs/day under Option B (4). This is 2.3% and 2.5%, respectively, of the emissions that were used in the CARB methodology.

- The development of new technical approaches in the future may change the feasibility determination. To date, SCAQMD has not developed or approved a method to predict health impacts from criteria pollutants. "Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths." [SCAQMD brief, p.16]

For the reasons set forth above, it is not currently feasible to relate the Project's air quality impacts to likely health consequences. Both SCAQMD and SJVACPD are responsible for assessing ozone and PM impacts regionally, and the potential health consequences from those on a regional basis. The current evaluation on the limitations and uncertainties of existing tools is consistent with SCAQMD and SJVAPCD findings. Currently available regional modeling tools are not designed to capture changes in pollutant concentrations for this Project that would be meaningful. This is due in part to a relatively course spatial resolution (e.g., greater than 4-kilometer x 4 kilometer) which makes it speculative to discern local project impacts on air quality.

3.3 EXISTING CONDITIONS FOR TOXIC EMISSIONS

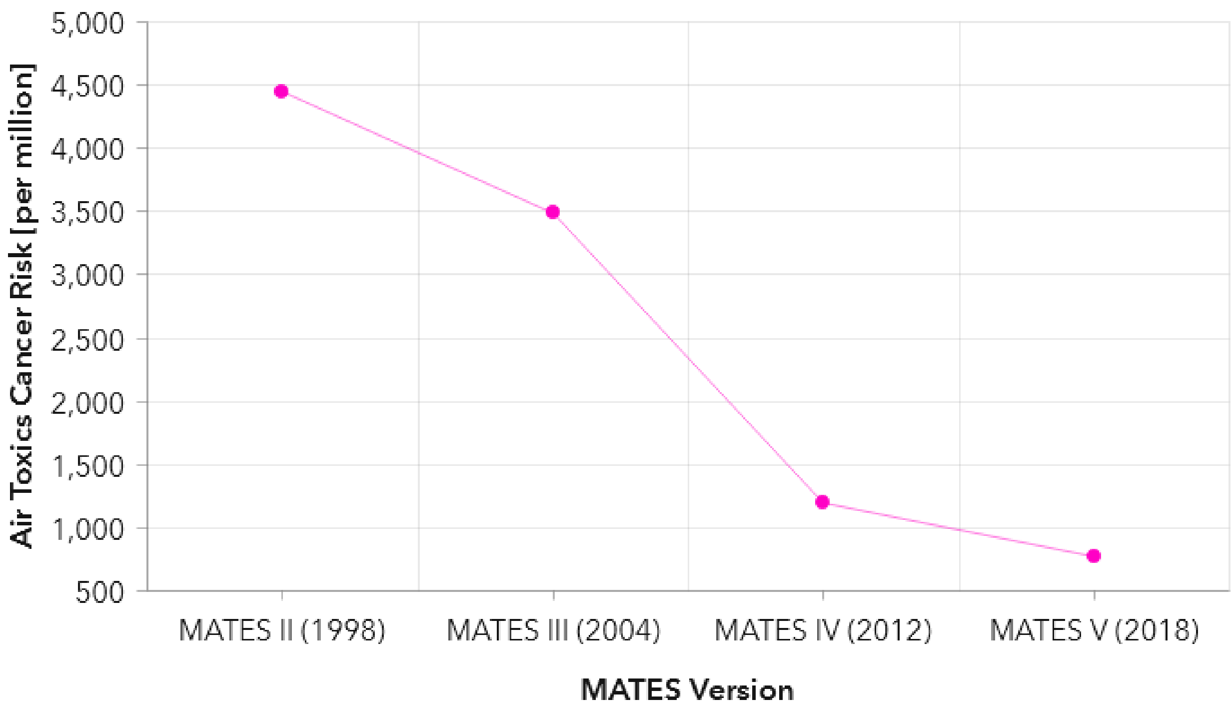
There are no state or federal ambient air quality standards applicable to TAC emissions. Preparing a cumulative assessment for TACs is complicated by the fact that site-specific impacts can be far different from average impacts over a larger geographic area. Impacts from TAC emissions are highest closest to sources of TACs, but the sources are often spread over a large area. For example, emissions from diesel engines, the largest source of risk from TACs, are generated on roads, businesses, and construction sites throughout the air basin. Locations where large numbers of TAC sources are concentrated such as freeways, rail yards, and ports may pose a higher level of risk to sensitive receptors near these facilities. Examination of the risk from TACs at national, state, regional, and local levels is useful for providing context, but site-specific evaluation is ultimately necessary to determine existing conditions for development projects.

3.4 AMBIENT TAC IMPACTS PRESUMED TO BE CUMULATIVELY SIGNIFICANT

SCAQMD has conducted an in-depth periodic analysis of toxic air contaminants and their resulting health risks within the air basin. This study, the *Multiple Air Toxics Exposure Study in the*

South Coast Air Quality Management District, shows that cancer risk has decreased by approximately 84% between MATES II (1998) and MATES V (2018) at the nearest monitored location to the Project site (Rubidoux) (19), as shown on Exhibit 3-A.

EXHIBIT 3-A: AIR TOXICS CANCER RISK TRENDS – RUBIDOUX



MATES-V is the most comprehensive dataset documenting the ambient air toxic levels and health risks associated with South Coast Air Basin emissions. Therefore, the MATES-V study represents the regional baseline health risk in the South Coast Air Basin. The available scientific data from SCAQMD, which is the expert agency charged with governing air quality and preparing regional risk calculations, shows that although there has been tremendous growth basin-wide, risk levels have declined. The decline in emissions is likely due to existing regulatory requirements that have been implemented over the past 20 years. MATES-V estimates that in the localized area (zip code) encompassing the Project site, the risk is approximately 308 incidents per million population.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (20). In this report SCAQMD states (Page D-3):

> *"…**the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR**. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of*

> *three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> ***Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same****. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

In many ways, California's Proposition 65, also called the Safe Drinking Water and Toxic Enforcement Act, which became law in 1986 can serve as a benchmark for cumulative risk assessment. Under Proposition 65, the law defines "no significant cancer risk" as a level of exposure that would cause no more than 1 extra case of cancer in 100,000 people or in other words 10 extra cases of cancer in 1,000,000 people over a 70-year lifetime (the same threshold recommended by SCAQMD). It should be noted that diesel exhaust (DE) or diesel particulate matter (DPM) is listed by the Office of Environmental Health Hazard Assessment (OEHHA) as a known carcinogen with respect to Proposition 65.

The U.S. EPA rules generally consider a cancer risk of 100 in one million at the community level to be within the acceptable range, and this level is considered by many lead agencies in California as a cumulative cancer risk threshold.[6]

3.4 JUSTIFICATION OF A GEOGRAPHIC SCOPE IN RISK ASSESSMENT

Proximity to sources of toxics is critical to determining the impact. In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70-percent drop-off in particulate pollution levels at 500 feet. Based on CARB and SCAQMD emissions and modeling analyses, an 80-percent drop-off in pollutant concentrations is expected at approximately 1,000 feet from a distribution center.

The 1,000-foot evaluation distance is supported by research-based findings concerning TAC emission dispersion rates from roadways and large sources showing that emissions diminish substantially between 500 and 1,000 feet from emission sources.

Lastly, the Waters Bill (AB 3205) (H&SC Section, 42301.6 through 42301.9) addresses sources of hazardous air pollutants near schools and although not directly applicable to this project, this bill further evidences the propriety of considering hazardous emissions sources within a defined 1,000-foot radius. That is, pursuant to the Waters Bill, prior to approving an application for a permit to construct or modify a source which emits hazardous air emissions (i.e. DPM), which source is located within 1,000 feet from the outer boundary of a school site, the air pollution

[6] Bay Area Air Quality Management District, Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance. October 2009, p. 67 (noting that "the 100 in a million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on the District's recent regional modeling analysis."

control officer shall prepare a public notice in which the proposed project or modification for which the application for a permit is made is fully described.

For assessing the cumulative impacts of a new source of TAC emissions associated with a project in combination with existing sources and probable future sources, a project radius is necessary. Assessment of impacts from existing sources within 1,000 feet (zone of influence) of the new source in combination with risks and hazards from the new source is recommended. Then, once the location of the maximally impacted receptor is identified for the project, cumulative impacts from other sources within the radius of the project (i.e., not the receptor) are assessed at that location. Assessments should sum individual hazards or risks to find the cumulative impact at the location of the maximally impacted receptor from the new source.

More recent studies suggest that in light of emission reductions due to tightening emission standards over the past twenty years, this 1,000-foot siting distance is overly conservative. Modeling performed for the 2021 report *Evaluating Siting Distances for New Sensitive Receptors Near Warehouses*, prepared by the Ramboll Group, demonstrates a significant reduction in DPM emissions and risk between year 2000 emissions (which were utilized by CARB in establishing its recommended siting guidance of 1,000 feet) and 2023 (21). This reduction is attributed to a significant reduction in DPM emission rates from trucks and TRUs resulting from the adoption of increasingly stringent emission standards. This reduction in DPM emission rates has resulted in a corresponding significant reduction in risk as well, despite increasingly conservative regulatory guidance in the preparation of HRAs, particularly OEHHA's adoption of age sensitivity factors in their revised HRA guidance released in 2015.

3.5 CUMULATIVE TAC IMPACTS

As noted above, SCAQMD does not currently have a separate methodology or threshold to evaluate a project's contribution to cumulative cancer risk. Instead, "[p]rojects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable."

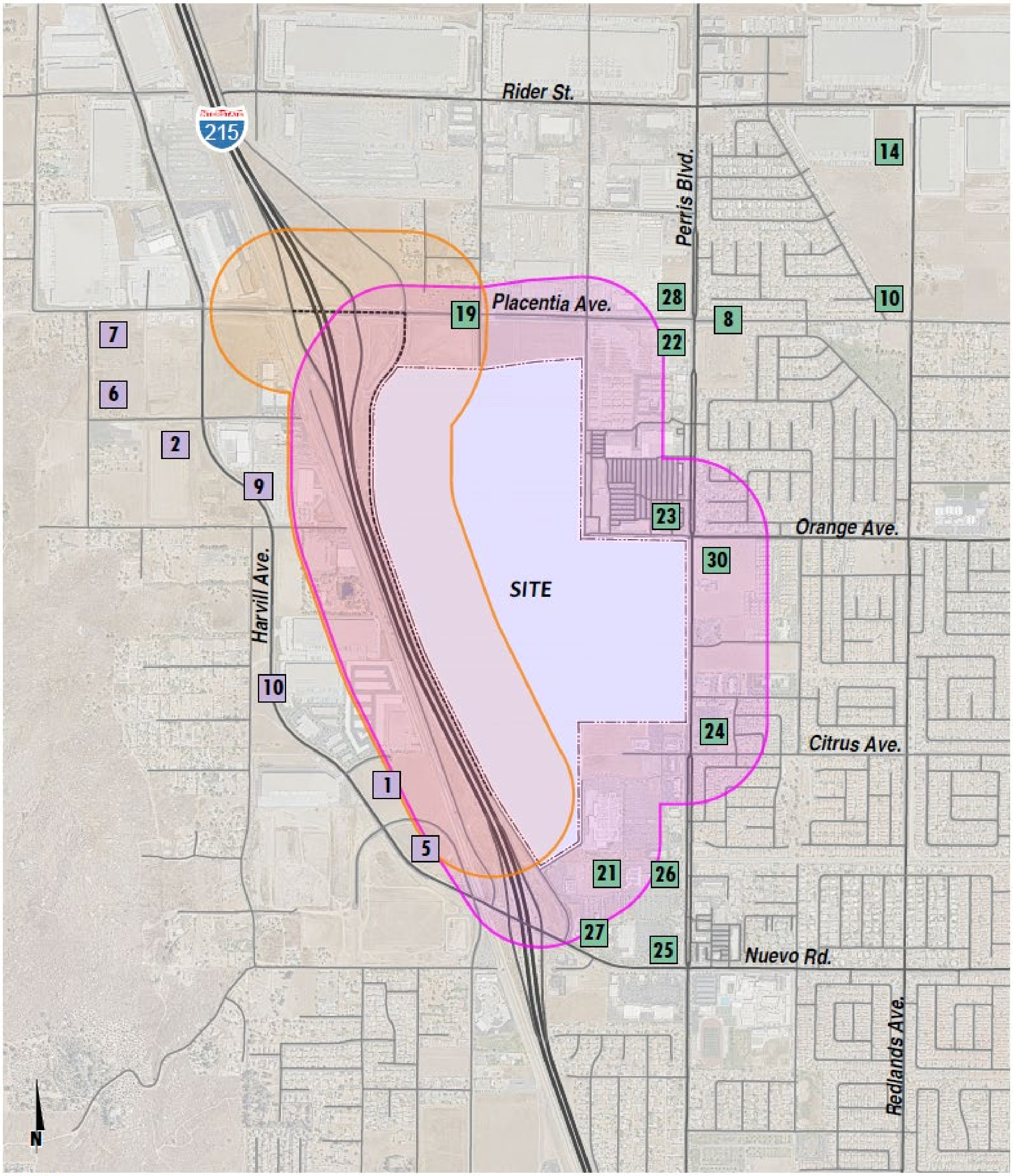
As explained in Section 2.7 above, with incorporation of mitigation, the Project does not exceed the SCAQMD project-specific significance threshold of an excess cancer risk of 10 in one million and would therefore not have a cumulatively considerable health risk impact.

As described in the Project traffic study and shown in Exhibit 3-B below, there are ten cumulative projects located within 1,000 feet of the proposed Project site or Project truck routes. Of these ten cumulative projects, eight are commercial in nature and would not generate a significant quantity of truck trips or TAC emissions. The two remaining industrial projects include the following:

- Project 1: PP23170, 287,000 square foot warehouse, 110 daily truck trips
- Project 19: Orbis Industrial Truck Yard, 26 acre truck storage yard, 1,512 daily passenger car equivalent (PCE) trips

Compared to the approximately 2,626 daily truck trips anticipated to be generated by the proposed Project, the 110 daily truck trips generated by Project 1 would not be anticipated to significantly affect the cumulative health risk. Similarly, Project 19 would not result in a significant number of truck trips, and due to the storage lot nature of this project, would not result in significant idling emissions occurring on the site. As such, due to the relatively small size and small number of truck trips associated with these two projects, any cumulative impacts would be minimal and result in a less than significant impact in this regard.

EXHIBIT 3-B: CUMULATIVE DEVELOPMENT PROJECTS LOCATION MAP



LEGEND:

= Site Boundary 1000-Foot Buffer

= Truck Route 1000-Foot Buffer

0 = Mead Valley Cumulative Projects

0 = Perris Cumulative Projects

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5 CERTIFICATIONS

The contents of this health risk assessment represent an accurate depiction of the impacts to sensitive receptors associated with the proposed Harvest Landing Retail Center & Business Park Project Project. The information contained in this health risk assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me at (949) 660-1994.

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PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Professionals
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June 2013
Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
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