EXHIBIT 1

October 3, 2022

Mr. Jamie Hall
CHANNEL LAW GROUP, LLP
8383 Wilshire Blvd., Suite 750
Beverly Hills, CA 90211

Subject: Seaton Avenue Warehouse (PPT210133 and CZ2100120) Trip Generation Review, County of Riverside, CA

Dear Mr. Hall:

Introduction

RK ENGINEERING GROUP, INC. (RK) is pleased to provide this Trip Generation Review for the proposed Seaton Avenue and Cajalco Road High-Cube Warehouse Development Project (hereinafter referred to as Project).

RK was hired to conduct a peer review of the *Seaton Avenue and Cajalco Road High-Cube Warehouse Focused Traffic Analysis, dated December 10, 2021, prepared by Translutions, Inc.* (hereinafter referred to as Traffic Study). According to the Traffic Study, the Project consists of constructing and operating 280,385 square feet of high-cube transload and short-term storage and 70,096 square feet of high-cube cold-storage warehouse uses.

Per our discussion with Channel Law Group, LLP, concerns were raised regarding the possibility of the Project operating as a parcel hub warehouse, instead of a transload and cold-storage warehouse, and the additional impacts that would occur from this more intense type of use.

The purpose of this study is to compare the trip generation estimates from the 2021 Traffic Study to the trip generation of the Project if it were to operate as a parcel hub warehouse.

Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development.

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W rkengineer.com

Trip generation has been estimated based on the trip generation rates from the latest Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition, 2021*. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

Table 1 shows the trip generation and passenger car equivalents (PCE) by vehicle types for the proposed Project assuming it would operate as a high cube parcel hub warehouse.

As shown in Table 1, based on the ITE Land Use 156: High-Cube Parcel Hub Warehouse trip generation rates, ITE truck percentages, truck fleet mix recommendations from SCAQMD, and standard PCE adjustments, the project would generate approximately 1,936 daily trips with approximately 295 trips in the AM peak hour and approximately 256 trips in the PM peak hour after applying appropriate PCE factors.

Table 2 compares the trip generation assumed in the 2021 Traffic Study to the trip generation for a high cube parcel hub warehouse. If the project were to operate as a high cube parcel hub warehouse, the project would generate an additional 1,221 daily PCE trips, with 256 additional PCE trips in the AM peak hour and 214 additional PCE trips in the PM peak hour, compared to what was analyzed in the 2021 Traffic Study.

RK Engineering Group, Inc. appreciates this opportunity to assist CHANNEL LAW GROUP, LLP with this project. If you have any questions regarding this study, please do not hesitate to contact us at (949) 474-0809.

Sincerely,

RK ENGINEERING GROUP, INC.

Justin Tucker, P.E.
Principal Engineer

Nhi Ly, E.I.T.
Engineer I

Table 1
Seaton Avenue and Cajalco Road High-Cube Warehouse
High Cube Warehouse Parcel Hub Trip Generation (ITE 156)

Land Use	ITE Code	Quantity	Units[1]	Trip Type	Peak Hour						Daily
					AM			PM			
					In	Out	Total	In	Out	Total	
Trip Generation Rates[2]											
High-Cube Parcel Hub Warehouse	156	--	TSF	All Vehicles	0.35	0.35	0.70	0.44	0.20	0.64	4.63
				Trucks	0.05	0.04	0.09	0.04	0.02	0.06	0.58
				Passenger Cars	0.30	0.31	0.61	0.40	0.18	0.58	4.05
Vehicle Trip Generation											
Seaton Avenue and Cajalco Road High-Cube Warehouse	156	350.481	TSF	All Vehicles	123	122	245	154	70	224	1,623
Vehicle Mix Trip Generation[3]											
Passenger Vehicles					105	108	213	140	63	203	1,420
2-Axle Trucks (16.7%)					3	2	5	2	2	4	34
3-Axle Trucks (20.7%)					4	3	7	3	1	4	42
4-Axle Trucks (62.5%)					11	9	20	9	4	13	127
Total Trucks[4]					18	14	32	14	7	21	203
Total Non-PCE Trip Generation					123	122	245	154	70	224	1,623
PCE Trip Generation[5, 6]											
Passenger Vehicles (PCE = 1.0)					105	108	213	140	63	203	1,420
2-Axle Trucks (PCE = 1.5)					5	3	8	3	3	6	51
3-Axle Trucks (PCE = 2.0)					8	6	14	6	2	8	84
4-Axle Trucks (PCE = 3.0)					33	27	60	27	12	39	381
Total Alternative PCE Trip Generation					**151**	**144**	**295**	**176**	**80**	**256**	**1,936**

[1] TSF = Thousand Square Feet

[2] Source: *ITE Trip Generation Manual* (11th Edition, 2021).

[3] The truck fleet mix is based on South Coast Air Quality Management District's (SCAQMD) recommended truck fleet mix normalized percentages, by axle type, utilizing the "Without Cold Storage" building type.

[4] The total truck percentages are based on the *ITE Trip Generation Manual* (11th Edition, 2021) recommended truck percentages based on land use type for the AM peak hour, PM peak hour, and ADT.

[5] Recommended PCE Factors per County of Riverside Transportation Analysis Guidelines for LOS & VMT, dated December 2020

[6] PCE = Passenger Car Equivalent

Table 2
Trip Generation Comparison

Scenario	Peak Hour						Daily
	AM			PM			
	In	Out	Total	In	Out	Total	
High Cube Parcel Hub Trip Generation (With PCE[1])	151	144	295	176	80	256	1,936
2021 Traffic Study Trip Generation (With PCE[1])[2]	26	13	39	13	29	42	715
Difference in Trips	**+125**	**+131**	**+256**	**+163**	**+51**	**+214**	**+1,221**

[1] PCE = Passenger Car Equivalent

[2] Source: *Seaton Avenue and Cajalco Road High Cube Warehouse Focused Traffic Analysis* , dated December 10, 2021, prepard by translutions, inc.

EXHIBIT 2

Warehouse Truck Trip Study Data Results and Usage

Mobile Source Committee
July 25, 2014

South Coast AQMD

Cleaning the Air That We Breathe…

Background

- Purpose: To provide guidance on how to quantify warehouse truck emissions for CEQA air quality analyses
  - Technical guidance
  - Establish “substantial evidence” for assumptions
  - Consistency for SCAQMD staff comments
- Truck emissions >90% of air impact
- Tenant often unknown when CEQA document certified

Existing Trip Rates

Grouping	Overall Rate (trips/tsf)		Truck Rate (trips/tsf)	
	Average Rate	Rate with Peaking Factor*	Average Rate	Rate with Peaking Factor*
Current ITE	1.68		0.64	
*Majority of CEQA docs**	1.68		0.34	
CalEEMod Guidance		2.59		1.04

Calculated truck trip rate based on Fontana Truck Trip Study (4 warehouses)

** 11 out of 18 CEQA docs in past year use 0.34 truck rate*

Truck Trip Study Process Overview

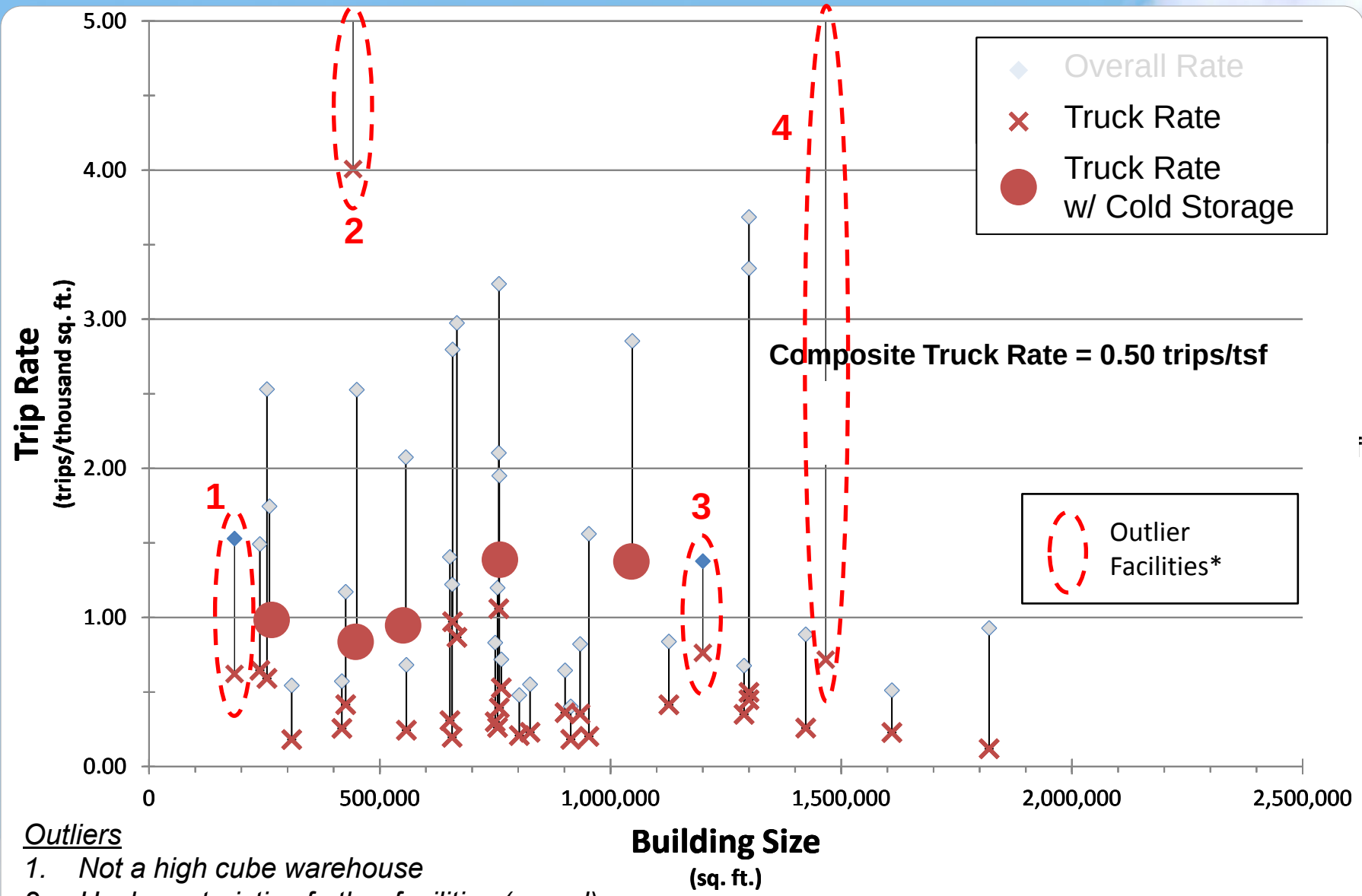
- Study began in January 2012
- 12 Stakeholder Working Group meetings
- 2 Technical Working Group meetings
- 34 responses to Business Survey*
- Video truck counts using traffic engineer at 33 warehouses**
- UCR traffic engineer and statistician analyzed results

* 400 Business Surveys sent out. 63 warehouses responded. 34 of the 63 warehouses met definition of “high cube warehouse”

** 37 total video counts. 4 excluded because either an outlier or did not meet definition of “high cube warehouse”

Analysis of Data

- Removed outlier data
  - E-commerce and parcel warehouses substantially higher overall trip rate
- Verified only “high cube warehouses” > 200,000 square feet
- Averaged data
  - Overall trip rate per 1,000 sq feet
  - Truck trip rate per 1,000 sq feet
- Three categories:
  - Non-cold storage warehouses
  - Cold storage warehouses
  - Composite for warehouses



Outliers

1. *Not a high cube warehouse*
2. *Uncharacteristic of other facilities (parcel)*
3. *Trucks use local street for internal circulation*
4. *Uncharacteristic of other facilities (e-commerce)*

SCAQMD Warehouse Truck Trip Study Findings[1,2]

Grouping	Overall Rate (trips/tsf)		Truck Rate (trips/tsf)	
	Average Rate	Rate with Peaking Factor[3]	Average Rate	Rate with Peaking Factor[3]
With Cold Storage	2.49	2.99	1.10	1.32
Non-Cold Storage	1.34	1.78	0.40	0.53
Composite	1.51	1.98	0.50	0.66

1 *Peaking Factor applied only to averaging periods ≤ one day*

2 *Outlier data removed*

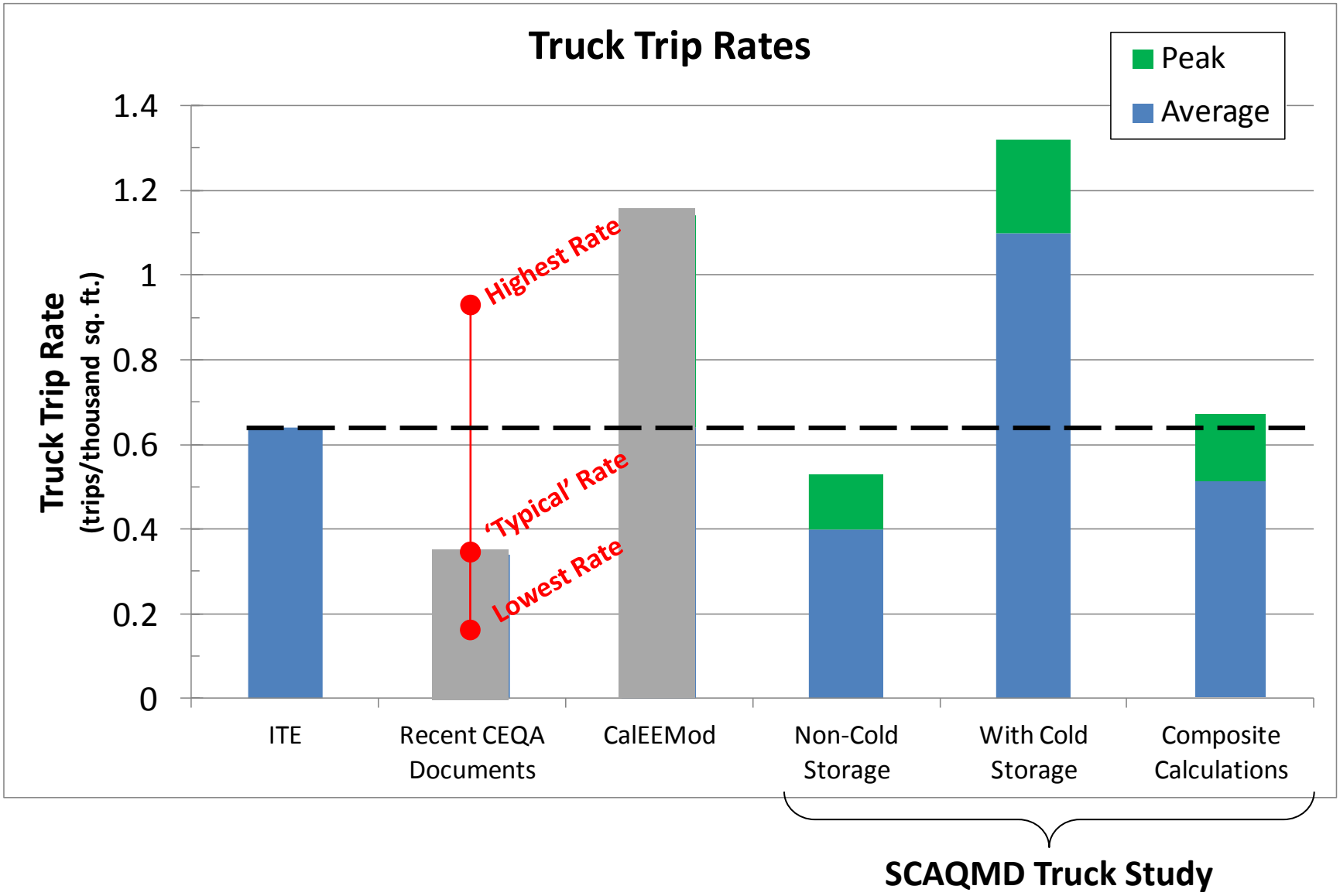
3 *Peaking Factor from Business Survey*

Cold Storage (14)	Non-Cold Storage (16)
20%	33%

Business Position/ Recommendation

- Use current edition ITE truck trip rate as default
  - ITE higher than SCAQMD non-cold storage truck rate w/peak: 0.64 vs 0.53 trips/tsf
  - ITE similar to SCAQMD composite truck rate w/peak: 0.64 vs 0.66 trips/tsf
  - ITE captures “peak” daily
  - ITE has established procedures to update trip rates
  - Lead agencies can use site specific data

Truck Trip Rate Comparison



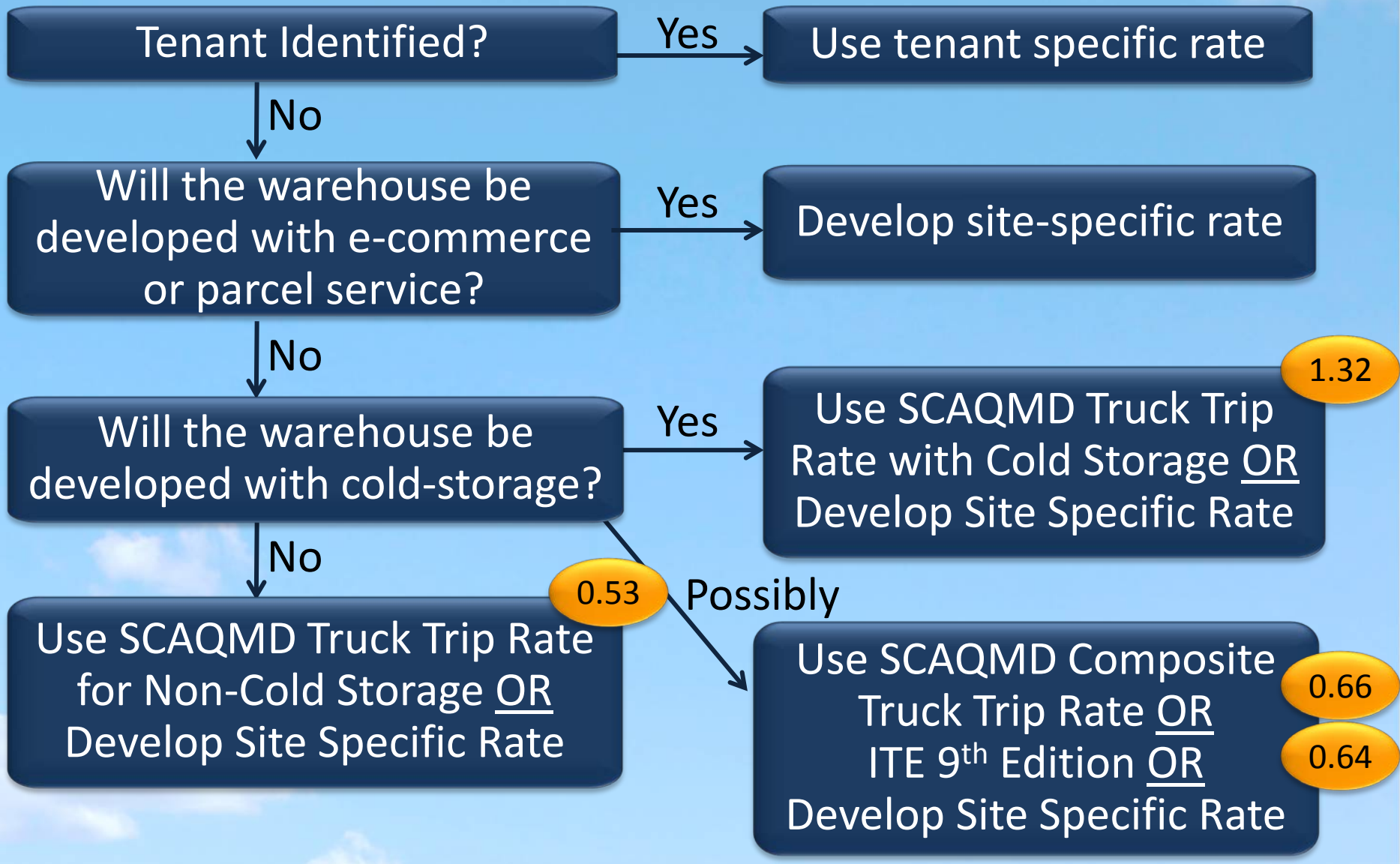
Staff Response

- Can support use of ITE truck trip rate as current default
- SCAQMD Study results with peaking factor are not inconsistent with ITE
- Fontana Truck Trip Study limited applicability
  - Overall trip rate based on 4 warehouses – includes 2 warehouses with zeros
  - No 24-hour truck trip rates reported
  - Truck trip rates using Fontana study are calculated based on 20% truck fleet mix
  - Fontana Study, by itself, is not characteristic of high cube warehouses

Staff Recommendations

- Implement staff interim recommendation
  - Use ITE default values until Governing Board action
  - Reflected in monthly IGR Board letter, NOP comment letter, and CalEEMod users noticed
- Option 1:
  - Continue staff interim recommendation
  - Supplement study by collecting more information on cold storage and peaking rates
- Option 2: See flow chart

Staff Recommendation - Option 2



Consistent with CEQA Guidelines, substantial evidence needed to justify choice of trip rate

Staff Recommendations *(Continued)*

- Submit SCAQMD Truck Trip Study results to ITE
- Recommend ITE separate “Cold Storage High Cube Warehouse”
- Recommend ITE evaluate e-commerce type warehouses
- Biannually collect additional trip count data from warehouses
- Develop updated emission mitigation menu e.g., WRCOG “Good Neighbor” Guidelines

EXHIBIT 3

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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October 3, 2022

Jamie Hall
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Subject: **Comments on the Seaton Avenue & Cajalco Road Warehouse Project (SCH No. 2022060441)**

Dear Mr. Hall,

We have reviewed the June 2022 Environmental Assessment Mitigated Negative Declaration ("EA/MND") for the Seaton Avenue and Cajalco Road Warehouse ("Project") located in the City of Riverside ("City"). The Project proposes to construct 335,481-square-feet ("SF") of warehouse space, 15,000-SF of office space, and 301 parking spaces on the 17.5-acre site.

Our review concludes that the EA/MND fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the air quality, health risk, and greenhouse gas impacts that the project may have on the environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The EA/MND's air quality analysis relies on emissions calculated with the California Emissions Estimator Model ("CalEEMod") Version 2020.4.0 (p. 44).[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental

[1] "CalEEMod Version 2020.4.0." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/download-model.

Quality Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project's CalEEMod output files, provided in the Air Quality, Energy, Greenhouse Gas Emissions and Health Risk Assessment Impact Analysis ("AQ, Energy, GHG, & HRA Analysis") as Appendix A to the EA/MND, we found that several model inputs were not consistent with information disclosed in the EA/MND. As a result, the Project's construction and operational emissions are underestimated. An EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "Seaton Avenue and Cajalco Rd Warehouse" model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix A, pp. 98, 128, 265).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	20.00	130.00

As a result of these changes, the model includes the following construction schedule (see excerpt below) (Appendix A pp. 103, 104, 133, 134, 271, 272).

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	3/1/2022	3/28/2022	5	20
2	Site Preparation	Site Preparation	3/29/2022	4/11/2022	5	10
3	Grading	Grading	4/12/2022	5/23/2022	5	30
4	Building Construction	Building Construction	5/24/2022	7/17/2023	5	300
5	Paving	Paving	1/17/2023	7/17/2023	5	130
6	Architectural Coating	Architectural Coating	1/17/2023	7/17/2023	5	130

As demonstrated above, both the paving and architectural coating phases are increased by 550%, from their default values of 20 to 130 days. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[2] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is:

> "Construction timing provided by applicant" (Appendix A, pp. 97, 127, 264).

[2] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

Furthermore, regarding the Project's anticipated construction schedule, the EA/MND states:

> "Construction activities for the Project would occur over one phase and include demolition, site preparation, grading, building construction, paving, and architectural coatings [...] Construction is expected to occur over 16 months" (p. 18).

However, these changes remain unsupported. While the EA/MND indicates the total construction duration, the EA/MND fails to mention or justify the individual construction phase lengths. This is incorrect, as according to the CalEEMod User's Guide:

> "CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA." [3]

Here, as the EA/MND only justifies the total construction duration of 16 months, the EA/MND fails to provide substantial evidence to support the revised *individual* construction phase lengths. As such, we cannot verify the changes.

These unsubstantiated changes present an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not for others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[4]

> *Demolition* involves removing buildings or structures.
>
> *Site Preparation* involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
>
> *Grading* involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
>
> *Building Construction* involves the construction of the foundation, structures and buildings.
>
> *Architectural Coating* involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.
>
> *Paving* involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

Thus, by disproportionately altering and extending some of the individual construction phase lengths without proper justification, the models assume there are a greater number of days to complete the construction activities required by the prolonged phases. As a result, there will be less construction activities required per day and, consequently, less pollutants emitted per day. Therefore, the model may underestimate the peak daily emissions associated with some phases of construction and should not be

[3] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13, 14.
[4] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 32.

relied upon to determine Project significance. As such, the model should have proportionately altered all phase lengths to match the proposed construction duration of 16 months.[5]

Unsubstantiated Reduction to Acres of Grading Value

Review of the CalEEMod output files demonstrates that the "Seaton Ave & Cajalco Rd Warehouse" model includes reductions to the default acres of grading values (see excerpt below) (Appendix A, pp. 99, 129, 266).

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	120.00	90.00
tblGrading	AcresOfGrading	35.00	15.00

As demonstrated above, the acres of grading for Project construction is reduced by a total of 50-acres. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[6] However, the "User Entered Comments & Non-Default Data" table fails to provide a justification for these changes. Furthermore, the AQ, Energy, GHG, & HRA Analysis states:

> "The grading activities are anticipated to be balanced, which would not require any dirt to be imported or exported from the project site" (p. 44).

However, this justification is insufficient, as the amount of material import and export required for Project construction has no bearing on the acres of grading values. As such, the EA/MND fails to mention or justify the revised acres of grading value whatsoever. This is incorrect, as according to the CalEEMod User's Guide:

> "CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA." [7]

Here, as the EA/MND and associated documents fail to provide substantial evidence to support the revised acres of grading values, we cannot verify the reductions. Additionally, the CalEEMod User's Guide states:

> "[T]he dimensions (e.g., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site

[5] See Attachment A for calculations.
[6] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.
[7] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 13-14.

preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday."[8]

As demonstrated above, the acres of grading value is based on construction equipment and the length of the grading and site preparation phases. Thus, as the dimensions of the Project site have no impact on the acres of grading value, the reduction remains unsupported.

These unsubstantiated reductions present an issue, as CalEEMod uses the acres of grading value to estimate the dust emissions associated with grading.[9] Thus, by including unsubstantiated reductions to the default acres of grading values, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Operational Off-Road Equipment Fuel Type and Hours per Day

Review of the CalEEMod output files demonstrates that the "Seaton Ave & Cajalco Rd Warehouse" model includes several changes to the default operational off-road equipment input parameters (see excerpt below (Appendix A, pp. 99, 129, 266).

Table Name	Column Name	Default Value	New Value
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	7.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00

As a result of these changes, the model includes a total of 4 electric forklifts that would operate for 7 hours per day (see excerpt below) (Appendix A, pp. 126, 156, 299).

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	4	7.00	260	89	0.20	Electrical

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[10] According to the "User Entered Comments & Non-Default Data" table, the justification provided for the revised operational off-road equipment input parameters is:

> "4 forklifts 7 hr per day. Per PDF 1 , all forklifts analyzed as Electric powered (Appendix A, pp. 98, 128, 265).

Furthermore, the AQ, Energy, GHG & HRA Analysis incorporates the following Project Design Feature ("PDF"):

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[8] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* http://www.aqmd.gov/caleemod/user's-guide, p. 9.
[9] "Appendix A – Calculation Details for CalEEMod." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 9.
[10] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 1, 14.

> "Project Design Feature 1: All off-road equipment (non-street legal), such as forklifts and street sweepers, used onsite during operation of the proposed warehouse shall be electric-powered only" (p. 3).

However, these changes remain unsubstantiated for three reasons.

First, while the AQ, Energy, GHG & HRA Analysis incorporates PDF-1, the EA/MND fails to include the feature as a formal mitigation measure. This is incorrect, as according to the Association of Environmental Professionals' ("AEP") *CEQA Portal Topic Paper* on Mitigation Measures:

> "While not 'mitigation', a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact."[11]

As demonstrated above, design features that are not formally included as mitigation measures may be eliminated from the Project's design altogether. Thus, as PDF-1 is not formally included as a mitigation measure in the EA/MND, we cannot guarantee that the use of electric forklifts would be implemented, monitored, and enforced on the Project site.

Second, the EA/MND and associated documents fail to mention the reduction to the daily hours of operation whatsoever. As such, we cannot verify that the forklift would operate for only 7 hours a day.

Third, the use of electric versus diesel forklifts is an operational question implicating the needs of the ultimate tenant. A tenant demanding higher capacity operations may require diesel forklifts. One common manufacturer of forklifts states that diesel forklifts have a maximum lifting capacity of up to 40,000 pounds, whereas electric forklifts have a maximum lifting capacity of 6,000 pounds.[12] The AQ, Energy, GHG, & HRA Analysis concedes that one-third of forklifts currently sold are diesel, and one-quarter of forklifts sold by 2027 will be diesel (p. 3). As the applicant is not the proposed tenant, and has not identified the proposed tenant, there is no basis to conclude that electric forklifts would be adequate for the tenant's uses.

These unsubstantiated changes present an issue, as CalEEMod uses operational off-road equipment to calculate the emissions associated with the Project's area-source operational emissions. [13] Thus, by including unsubstantiated input parameters for the Project's operational off-road equipment, the model

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[11] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.
[12] "Diesel Forklifts vs. Electric Forklifts." Arnold Machinery Company, Material Handling Division, *available at*: https://arnoldmachinerymh.com/resources/diesel-vs-electric-forklifts/
[13] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide, p. 42.

may underestimate the Project's area-source operational emissions and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related and operational emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the EA/MND. In our updated model, we omitted the unsubstantiated changes to the construction phase lengths, acres of grading values, and operational off-road equipment input parameters.[14]

Our updated analysis estimates that the Project's construction-related VOC emissions would exceed the applicable South Coast Air Quality Management District ("SCAQMD") threshold of 75 pounds per day ("lbs/day"), as referenced by the EA/MND (p. 44, Table AQ-2) (see table below).[15]

SWAPE Criteria Air Pollutant Emissions	
Construction	**VOC** (lbs/day)
EA/MND	29.95
SWAPE	185.55
% Increase	520%
SCAQMD Threshold	**75**
Exceeds?	***Yes***

As demonstrated in the table above, the Project's construction-related VOC emissions, as estimated by SWAPE, increase by approximately 520% and exceed the applicable SCAQMD significance threshold. Thus, our updated model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the EA/MND. As a result, an EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the environment.

Diesel Particulate Matter Emissions Inadequately Evaluated

The EA/MND estimates that the maximum incremental cancer risk posed to nearby, existing residential sensitive receptors as a result of heavy-duty diesel trucks entering and leaving the site during Project operation would be 3.5 in one million, which would not exceed the SCAQMD significance threshold of 10 in one million (Table AQ-6, p. 48).

[14] See Attachment B for updated air modeling.
[15] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, April 2019, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

Table AQ-6: Localized Significance Summary of Operation Emissions (Health Risk)

Location[1]	Maximum Lifetime Cancer Risk (Per Million)	Significance Threshold	Exceeds Significance Threshold?
Sensitive Receptor 1	1.6	10	No
Sensitive Receptor 2	2.2	10	No
Sensitive Receptor 3	2.1	10	No
Sensitive Receptor 4	2.8	10	No
Sensitive Receptor 5	3.5	10	No
Sensitive Receptor 6	1.7	10	No
Sensitive Receptor 7	2.2	10	No
Sensitive Receptor 8	2.9	10	No

Furthermore, regarding the health risk impacts associated with the Project construction, the EA/MND states:

> "Construction of the proposed Project may expose nearby residential sensitive receptors to airborne particulates as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions by following SCAQMD's standard construction practices Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. As shown in Table AQ-4, Project construction-source emissions would not exceed SCAQMD LSTs and impacts would be less than significant" (p. 46).

As demonstrated above, the EA/MND states that the Project's construction-related health risk impact is less-than-significant because emissions do not exceed SCAQMD Localized Significance Thresholds ("LSTs"). However, the EA/MND fails to conduct a construction health risk analysis ("HRA") or discuss the toxic air contaminant ("TAC") emissions associated with Project construction whatsoever. Thus, the EA/MND's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for four reasons.

First, the use of a LST analysis to determine the health risk impacts posed to nearby, existing sensitive receptors as a result of the Project's construction-related TAC emissions is incorrect. While the LST method assesses the impact of pollutants at a local level, it only evaluates impacts from criteria air pollutants. According to the *Final Localized Significance Threshold Methodology* document prepared by the South Coast Air Quality Management District ("SCAQMD"), LST analyses are only applicable to NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions, which are collectively referred to as criteria air pollutants.[16] Because LST methods can only be applied to criteria air pollutants, they cannot be used to determine whether emissions from TACs, specifically DPM, a known human carcinogen, would result in a significant health

[16] "Final Localized Significance Threshold Methodology." South Coast Air Quality Management District (SCAQMD), Revised July 2008, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf.

risk impact to nearby sensitive receptors. As a result, health impacts during Project construction from exposure to TACs, such as DPM, were not analyzed, thus leaving a gap in the EA/MND's analysis.

Second, by failing to prepare a quantified construction HRA, the EA/MND is inconsistent with CEQA's requirement to correlate the increase in emissions that the Project would generate to the adverse impacts on human health caused by those emissions.[17] This is incorrect, as construction of the proposed Project will produce DPM emissions through the exhaust stacks of construction equipment over a total construction duration of 16 months (p. 18). However, the EA/MND fails to evaluate the potential Project-generated TACs or indicate the concentrations at which such pollutants would trigger adverse health effects. Thus, without making a reasonable effort to connect the Project's construction-related TAC emissions to the potential health risks posed to nearby receptors, the EA/MND is inconsistent with CEQA's requirement to correlate the increase in emissions generated by the Project with the potential adverse impacts on human health.

Third, the State of California Department of Justice recommends that warehouse projects prepare a quantitative HRA pursuant to the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California, as well as local air district guidelines.[18] OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015, as referenced by the EA/MND (p. 35). This guidance document describes the types of projects that warrant the preparation of an HRA. Specifically, OEHHA recommends that all short-term projects lasting at least 2 months assess cancer risks.[19] Furthermore, according to OEHHA:

> "Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009)."[20]

Thus, as the Project's anticipated construction duration exceeds the 2-month and 6-month requirements set forth by OEHHA, construction of the Project meets the threshold warranting a quantified HRA under OEHHA guidance and should be evaluated for the entire construction period. These recommendations reflect the most recent state health risk policies, and as such, an EIR should be prepared to include an analysis of health risk impacts posed to nearby sensitive receptors from Project-generated DPM emissions.

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[17] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.
[18] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, *available at*: https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf, p. 6.
[19] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[20] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.

Fourth, while the EA/MND includes a HRA evaluating the health risk impacts to nearby, existing receptors as a result of Project operation, the HRA fails to evaluate the combined lifetime cancer risk to nearby, existing receptors as a result of Project construction and operation together. According to OEHHA guidance "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location."[21] However, the Project's HRA fails to sum each age bin to evaluate the total cancer risk over the course of the Project's total construction and operation. This is incorrect and thus, an updated analysis should quantify the entirety of the Project's construction and operational health risks together and sum them to compare to the SCAQMD threshold of 10 in one million, as referenced by the EA/MND (p. 48).

Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

In order to conduct our screening-level risk assessment we relied upon AERSCREEN, which is a screening level air quality dispersion model.[22] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA and the California Air Pollution Control Officers Associated ("CAPCOA") guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs").[23, 24] A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary HRA of the Project's construction-related health risk impact to residential sensitive receptors using the annual PM_{10} exhaust estimates from the EA/MND's CalEEMod output files. Consistent with recommendations set forth by OEHHA, we assumed residential exposure begins during the third trimester stage of life.[25] The EA/MND's CalEEMod model indicates that construction activities will generate approximately 304 pounds of DPM over the 503-day construction period.[26] The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project construction, we calculated an average DPM emission rate by the following equation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{304\ lbs}{503\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.00317\ g/s}$$

[21] "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4
[22] "AERSCREEN Released as the EPA Recommended Screening Model," U.S. EPA, April 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf
[23] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[24] "Health Risk Assessments for Proposed Land Use Projects." CAPCOA, July 2009, *available at:* http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.
[25] "Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-18.
[26] See Attachment B for health risk calculations.

Using this equation, we estimated a construction emission rate of 0.00317 grams per second ("g/s"). Construction was simulated as a 17.5-acre rectangular area source in AERSCREEN, with approximate dimensions of 376- by 188-meters. A release height of three meters was selected to represent the height of stacks of operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. The population of Riverside was obtained from U.S. 2020 Census data.[27]

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. The United States Environmental Protection Agency ("U.S. EPA") suggests that the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10% in screening procedures.[28] According to the EA/MND the nearest sensitive receptors are mobile-homes located 140 feet, or 43 meters, southwest of the Project site (p. 46). However, review of the AERSCREEN output files demonstrates that the MEIR is located approximately 200 meters from the Project site. Thus, the single-hour concentration estimated by AERSCREEN for Project construction is approximately 1.941 µg/m^3 DPM at approximately 200 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.1941 µg/m^3 for Project construction at the MEIR.

We calculated the excess cancer risk to the MEIR using applicable HRA methodologies prescribed by OEHHA, as recommended by SCAQMD.[29] Specifically, guidance from OEHHA and the California Air Resources Board ("CARB") recommends the use of a standard point estimate approach, including high-point estimate (i.e. 95th percentile) breathing rates and age sensitivity factors ("ASF") in order to account for the increased sensitivity to carcinogens during early-in-life exposure and accurately assess risk for susceptible subpopulations such as children. The residential exposure parameters, such as the daily breathing rates ("BR/BW"), exposure duration ("ED"), age sensitivity factors ("ASF"), fraction of time at home ("FAH"), and exposure frequency ("EF") utilized for the various age groups in our screening-level HRA are as follows:

[27] "Riverside." U.S. Census Bureau, 2020, *available at:* https://datacommons.org/place/geoId/0662000.
[28] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf.
[29] "Supplemental Guidelines for Submission of Rule 1200 Health Risk Assessments (HRAs)." SDAPCD, July 2019, *available at:* https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Toxics_Program/APCD_1200_Supplemental_Guidelines.pdf.

Exposure Assumptions for Residential Individual Cancer Risk						
Age Group	**Breathing Rate** (L/kg-day)[30]	**Age Sensitivity Factor**[31]	**Exposure Duration** (years)	**Fraction of Time at Home**[32]	**Exposure Frequency** (days/year)[33]	**Exposure Time** (hours/day)
3rd Trimester	361	10	0.25	1	350	24
Infant (0 - 2)	1090	10	2	1	350	24
Child (2 - 16)	572	3	14	1	350	24
Adult (16 - 30)	261	1	14	0.73	350	24

For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose for each age group. 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, we utilized the following dose algorithm:

$$Dose_{AIR,per\ age\ group} = C_{air} \times EF \times \left[\frac{BR}{BW}\right] \times A \times CF$$

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
C_{air} = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

To calculate the overall cancer risk, we used the following equation for each appropriate age group:

$$Cancer\ Risk_{AIR} = Dose_{AIR} \times CPF \times ASF \times FAH \times \frac{ED}{AT}$$

[30] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[31] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 8-5 Table 8.3.
[32] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[33] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 5-24.

where:

$Dose_{AIR}$ = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(mg/kg/day)^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 503-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and first 1.13 years of the infantile stage of life (0 – 2 years). The results of our calculations are shown in the table below.

The Maximally Exposed Individual at an Existing Residential Receptor

Age Group	**Emissions Source**	**Duration** (years)	**Concentration** (ug/m3)	**Cancer Risk**
3rd Trimester	Construction	0.25	0.1941	2.64E-06
	Construction	*1.13*	*0.1941*	*3.60E-05*
	Operation	*0.87*	*	*
Infant (0 - 2)	Total	2		3.60E-05
Child (2 - 16)	Operation	14	*	*
Adult (16 - 30)	Operation	14	*	*
Lifetime		**30**		**3.86E-05**

* Operational cancer risk calculated separately in EA/MND.

As demonstrated in the table above, the excess cancer risks to the 3rd trimester of pregnancy and infant receptors at the MEIR located approximately 200 meters away, over the course of Project construction, are approximately 2.64 and 36.0 in one million, respectively. The total excess cancer risk associated with Project construction is approximately 38.6 in one million. When summing the Project's construction-related cancer risk, as estimated by SWAPE, with the EA/MND's operational cancer risk of 3.5 in one million, we estimate an excess cancer risk of approximately 42.1 in one million over the course of a 30-year residential lifetime (p. 48, Table AQ-6).[34] As such, the infant and lifetime cancer risks exceed the SCAQMD threshold of 10 in one million, thus resulting in a potentially significant impact not previously addressed or identified by the EA/MND.

[34] Calculated: 38.6 in one million + 3.5 in one million = 42.1 in one million.

An agency must include an analysis of health risks that connects the Project's emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection. The purpose of the screening-level HRA is to demonstrate the link between Project-generated emissions and potential adverse health risk impacts. According to the U.S. EPA:

> "EPA's Exposure Assessment Guidelines recommend completing exposure assessments iteratively using a *tiered approach* to *'strike a balance between the costs of adding detail and refinement to an assessment and the benefits associated with that additional refinement' (U.S. EPA, 1992).*
>
> In other words, an assessment using basic tools (e.g., simple exposure calculations, default values, rules of thumb, conservative assumptions) can be conducted as the first phase (or tier) of the overall assessment (i.e., a screening-level assessment).
>
> The exposure assessor or risk manager can then determine whether the results of the screening-level assessment warrant further evaluation through refinements of the input data and exposure assumptions or by using more advanced models."[35]

As demonstrated above, screening-level analyses warrant further evaluation in a refined modeling approach. Thus, as our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, an EIR should be prepared to include a refined health risk analysis which adequately and accurately evaluates health risk impacts associated with both Project construction and operation.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The EA/MND concludes that the Project would result in net annual greenhouse gas ("GHG") emissions of 3,655.76 metric tons of carbon dioxide equivalents per year ("MT CO_2e/year") (see excerpt below) (p. 76, Table GHG-1).

[35] "Exposure Assessment Tools by Tiers and Types - Screening-Level and Refined." U.S. EPA, *available at:* https://www.epa.gov/expobox/exposure-assessment-tools-tiers-and-types-screening-level-and-refined.

Table GHG-1: Greenhouse Gas Emissions

	Greenhouse Gas Emissions (Metric Tons per Year)			
Category	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Area Sources[1]	0.01	0.00	0.00	0.01
Energy Usage[2]	863.68	0.06	0.01	868.31
Mobile Sources[3]	2,243.95	0.05	0.27	2,325.01
Off-Road Equipment[4]	0.00	0.00	0.00	0.00
Solid Waste[5]	66.88	3.95	0.00	165.68
Water and Wastewater[6]	179.66	2.24	0.05	251.89
Construction[7]	44.18	0.01	0.00	44.86
Total Emissions	3,398.36	6.31	0.33	**3,655.76**
County of Riverside CAP Threshold of Significance				**3,000**

Notes:
[1] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscaping equipment.
[2] Energy usage consists of GHG emissions from electricity (including electric forklifts) and natural gas usage.
[3] Mobile sources consist of GHG emissions from vehicles.
[4] Off-road equipment consists of emissions from forklifts utilized onsite (Project Design Feature 1 requires all off-road equipment to be electric-powered).
[5] Waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.
[6] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[7] Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.
Source: Vista Environmental, 2021 (Appendix A)

As a result, the EA/MND concludes that the Project's GHG emissions would exceed the County's significance threshold of 3,000 MT CO_2e/year (p. 76). According to the EA/MND:

> "The CAP identifies a two-step approach in evaluating GHG emissions. First, a screening threshold of 3,000 $MTCO_2e$ per year is used to determine if additional analysis is required. The 3,000 $MTCO_2e$ per year value is used in defining small projects that, when combined with the modest efficiency measures required by Title 24 requirements, are considered less than significant. Projects that exceed the 3,000 $MTCO_2e$ per year are required to quantify and disclose the anticipated GHG emissions, then either 1) demonstrate GHG emissions reductions at project buildout year levels from implementation of project design features and/or mitigation measures to reduce GHG emissions or 2) garner 100 points through the Screening Tables" (p. 75).

Thus, by garnering 100 points through the CAP's Screening Tables, the EA/AND concludes that the Project's GHG emissions would be less-than-significant with the incorporation of Mitigation Measure ("MM") GHG-1, which states:

> "Prior to the issuance of a building permit, the Project applicant shall provide documentation to the County of Riverside Transportation Land Management Agency demonstrating that the Project includes the measures from the County of Riverside Climate Action Plan (CAP) GHG Emission Screening Tables, as needed to achieve a minimum of 100 points. Specific measures may be substituted for other measures that achieve an equivalent amount of GHG reduction, subject to the County of Riverside Transportation Land Management Agency review" (p. 79).

Furthermore, regarding MM GHG-1, the AQ, Energy, GHG, & HRA Analysis states:

> "Mitigation Measure 1 has been provided that requires that the project applicant to submit to the County prior to the issuance of a building permit, the County Climate Action Plan Screening Tables showing that the project would achieve a minimum of 100 points or greater of GHG

reduction measures. It should be noted that as the tenant of the proposed warehouse has not yet been determined, it is not feasible to identify the 100 points of GHG reduction measures at this time" (p. 79).

As demonstrated above, the EA/MND claims it is not feasible to specify 100 points without a determined tenant and defers the identification of points that the Project would be required to achieve. However, the EA/MND's GHG analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for three reasons.

First, the Project's reasoning for deferring mitigation until a tenant has been determined is incorrect, as there are numerous measures that could be incorporated without identifying a potential tenant (see table below).

Feasible Screening Table Measures Without Identifying Warehouse Tenant

Measure	Feasibility for Speculative Tenant	Points
EE10.A	• Greater insulation standards (12 points for walls, 7 points for windows and 10 points for roof) • Leak prevention (13 points) • Installation of thermal masses (14 points)	56
EE10.B	• Duct insulation (8 points) • HVAC efficiency (7 points) • Water heater efficiency (11 points for heating system plus 5 points for solar pre-heating) • Perimeter windows (2 points) • Lighting efficiency (8 points) • High efficiency refrigerator, dishwasher, and dryer (6 points)	42
EE10.C	• Building orientation (4 points) • Shading windows with overhangs (6 points)	10
CE1.B	• On-site solar installation (34 points)	34
W2.D	• Native landscaping (5 points) • Low precipitation spray heads and weather-based irrigation control (4 points)	9
W2.E	• Showerheads (2 points) • Waterless urinals and high efficiency toilets (6 points) • Faucets (2 points) • Dishwashers (2 points) • Laundry equipment (4 points)	16
W2.F	• Graywater system (5 points) has no bearing on warehouse operations.	5
T3.A	• Vanpool with preferred parking, guaranteed ride home and subsidies (11 points) • Sidewalk/bicycle facilities and subsidies (8 points) • Transit facilities and subsidies (12 points)	31

	• Only "alternative work schedules" (5 points)	
T1.F	• Preferred parking for carpool (1 point) or vanpool (1 point)	2
T1.G	• Signal synchronization	4
T2.B	• Sidewalks (4 points) • Bicycle paths (7 points)	11
T4.B	• Circuits (2 points) • Chargers (8 points per station) • Neighborhood electric vehicles (8 points)	18
S1.B	• Industrial waste recycling	7
	Total Points Feasible Without Identifying Tenant	**245**

As demonstrated above, there are a total of 245 points that are not associated with warehouse operations and can be incorporated without identifying the Project's tenant. As such, the EA/MND should include any applicable measures from the above table in a mitigation monitoring and reporting program ("MMRP").

Second, upon review of the CAP Screening Table Measures, we have determined that numerous measures are already required by law. This is a significant issue, as incorporating the associated Screening Table measures would not result in any *additional* reductions to GHG emissions. Furthermore, the City's CAP is based in part on the 2016 California Green Building Standards code, while current regulations require adherence with the more-efficient 2019 California Green Building Standards code. As such, adherence with any of the below reduction measures is futile and not consistent with current state standards (see table below).

Screening Table Measures Already Required by Law			
Measure	**Applicable Requirement**	**Screening Table**	**Points**
EE10.A.1	For refrigerated warehouse, provide R-28 insulation for all exterior walls (24 Cal. Code Regs., § 120.6(a)(1))	Provide R-15 insulated walls	12
EE10.A.2	Roof U-Factor shall not exceed 0.098 (24 Cal. Code Regs., § 120.7(a)(1))	Roof U-Factor shall not exceed 0.28	7
EE10.3	Provide roof with 0.35 solar reflectance and 0.75 thermal emittance (24 Cal. Code Regs., § 140.3(a)(1)(A)(i)(a)(1))	Provide roof with 0.35 solar reflectance and 0.75 thermal emittance	10
W2.E.2	Toilet water usage shall not exceed 1.28 gallons per flush (24 Cal. Code Regs., § 1605.3(i))	Toilet water usage shall not exceed 1.5 gallons per flush	3
W2.E.3	Faucet water usage shall not exceed 1.2 gallons per minute (24 Cal. Code Regs., § 1605.3(h))	Faucet water usage shall not exceed 1.28 gallons per minute	2
		Total Points Due to Measures Required by Applicable Law	**34**

Thus, the above-mentioned Screening Tables measures offer examples of measures that, if incorporated, would have no impact on reducing the Project's GHG emissions.

Third, by failing to identify the Project's expected 100 points, the Project fails to incorporate each reduction measure as a formal mitigation measure. This is incorrect, as according to the Association of Environmental Professionals' ("AEP") *CEQA Portal Topic Paper* on Mitigation Measures:

> "While not 'mitigation', a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact."[36]

As demonstrated above, design features that are not formally included as mitigation measures in an MMRP may be eliminated from the Project's design altogether. Thus, as the specific reduction features utilized to garner 100 points are not formally included as mitigation measures, or even discussed in the EA/MND, we cannot guarantee that they would be implemented, monitored, and enforced on the Project site. Furthermore, several of the point reductions can only be verified through on-going monitoring in which an agency is assigned responsibility to enforce and report on adherence to the mitigation measure (see table below).

Screening Table Measures Requiring an MMRP		
Measure	**Description**	**Points**
CE1.B.1	On-site solar installation	34
T3.A.1	Encourage telecommuting with flexible schedules	5
T3.A.2	Provide a vanpool program and subsidize vanpooling	11
T3.A.3	Subsidized employee walking and bicycling	3
T3.A.4	Guaranteed ride home, subsidized transit passes	3
T1.F.1	Preferential and reserved parking for carshare, carpool and zero emission vehicles	2
S1.B.1	Industrial recycling program to divert 80 percent of solid waste	5
	Total Points Requiring MMRP for Compliance	**63**

Thus, the above-mentioned Screening Tables measures offer examples of measures that, if incorporated, must be included in a MMRP. As such, until the specific reduction measures are identified and included as mitigation measures, the Project's GHG analysis should not be relied upon to determine Project significance.

[36] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

As discussed above, our analysis demonstrates that the Project would result in potentially significant air quality and health risk impacts that should be mitigated further. In an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project. Feasible mitigation measures can be found in the Department of Justice Warehouse Project Best Practices document.[37] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

- Requiring off-road construction equipment to be zero-emission, where available, and all diesel-fueled off-road construction equipment, to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities.
- Prohibiting off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Requiring on-road heavy-duty haul trucks to be model year 2010 or newer if diesel-fueled.
- Providing electrical hook ups to the power grid, rather than use of diesel-fueled generators, for electric construction tools, such as saws, drills and compressors, and using electric tools whenever feasible.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Forbidding idling of heavy equipment for more than two minutes.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Providing information on transit and ridesharing programs and services to construction employees.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees.
- Requiring that all facility-owned and operated fleet equipment with a gross vehicle weight rating greater than 14,000 pounds accessing the site meet or exceed 2010 model-year emissions

[37] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, *available at:* https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf, p. 6 - 9.

equivalent engine standards as currently defined in California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025. Facility operators shall maintain records on-site demonstrating compliance with this requirement and shall make records available for inspection by the local jurisdiction, air district, and state upon request.

- Requiring all heavy-duty vehicles entering or operated on the project site to be zero-emission beginning in 2030.
- Requiring on-site equipment, such as forklifts and yard trucks, to be electric with the necessary electrical charging stations provided.
- Forbidding trucks from idling for more than two minutes and requiring operators to turn off engines when not in use.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of facility for the life of the project.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project, and making the resulting data publicly available in real time. While air monitoring does not mitigate the air quality or greenhouse gas impacts of a facility, it nonetheless benefits the affected community by providing information that can be used to improve air quality or avoid exposure to unhealthy air.
- Constructing electric truck charging stations proportional to the number of dock doors at the project.
- Constructing electric plugs for electric transport refrigeration units at every dock door, if the warehouse use could include refrigeration.
- Constructing electric light-duty vehicle charging stations proportional to the number of parking spaces at the project.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity, such as equal to the building's projected energy needs.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Meeting CalGreen Tier 2 green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.
- Achieving certification of compliance with LEED green building standards.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations.
- Posting signs at every truck exit driveway providing directional information to the truck route.
- Improving and maintaining vegetation and tree canopy for residents in and around the project area.

- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB approved courses. Also require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants to use carriers that are SmartWay carriers.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. As such, an EIR should be prepared to include all feasible mitigation measures, as well as include updated air quality and health risk analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: Construction Calculations
Attachment B: Updated CalEEMod Output Files
Attachment C: Health Risk Calculations
Attachment D: AERSCREEN Output Files
Attachment E: Matt Hagemann CV
Attachment F: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	559	0.0358	503	18
Site Preparation	10	559	0.0179	503	9
Grading	30	559	0.0537	503	27
Construction	300	559	0.5367	503	270
Paving	20	559	0.0358	503	18
Architectural Coating	20	559	0.0358	503	18

	Total Default Construction Duration	Revised Construction Duration
Start Date	3/1/2022	3/1/2022
End Date	9/11/2023	7/17/2023
Total Days	559	503

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Seaton Ave & Cajalco Rd Warehouse

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	70.10	1000sqft	2.64	70,096.00	0
Unrefrigerated Warehouse-No Rail	280.38	1000sqft	7.92	280,385.00	0
Parking Lot	6.94	Acre	6.94	302,306.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent with model's EA/MND.

Trips and VMT - Consistent with model's EA/MND

Demolition -

Grading -

Vehicle Trips - Consistent with EA/MND's model.

Energy Use - Consistent with EA/MND's model.

Water Mitigation -

Operational Off-Road Equipment - Consistent with EA/MND's model.

Fleet Mix - Consistent with EA/MND's model.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Phase - See SWAPE's comments regarding "Unsusbtantiated Changes to Individual Construction Phase Lengths"

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	9.00
tblConstructionPhase	NumDays	30.00	27.00
tblConstructionPhase	NumDays	300.00	270.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	18.00
tblEnergyUse	NT24E	0.00	0.20
tblFleetMix	HHD	0.02	0.61
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.58
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.3100e-003	0.17
tblFleetMix	LHD2	7.3100e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MH	5.4680e-003	0.00
tblFleetMix	MH	5.4680e-003	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	MHD	0.01	0.23
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandUse	LandUseSquareFeet	70,100.00	70,096.00
tblLandUse	LandUseSquareFeet	280,380.00	280,385.00
tblLandUse	LotAcreage	1.61	2.64
tblLandUse	LotAcreage	6.44	7.92
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	CNW_TL	6.90	40.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	ST_TR	2.12	1.63
tblVehicleTrips	ST_TR	1.74	1.52
tblVehicleTrips	SU_TR	2.12	1.63
tblVehicleTrips	SU_TR	1.74	1.52
tblVehicleTrips	WD_TR	2.12	1.63
tblVehicleTrips	WD_TR	1.74	1.52

2.0 Emissions Summary

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3143	2.5980	2.8555	7.2000e-003	0.5235	0.1114	0.6349	0.1774	0.1042	0.2816	0.0000	650.2544	650.2544	0.0882	0.0283	660.8941
2023	1.8317	1.1435	1.6261	4.2100e-003	0.2116	0.0466	0.2582	0.0571	0.0438	0.1008	0.0000	381.2633	381.2633	0.0409	0.0183	387.7356
Maximum	**1.8317**	**2.5980**	**2.8555**	**7.2000e-003**	**0.5235**	**0.1114**	**0.6349**	**0.1774**	**0.1042**	**0.2816**	**0.0000**	**650.2544**	**650.2544**	**0.0882**	**0.0283**	**660.8941**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3143	2.5980	2.8555	7.2000e-003	0.5235	0.1114	0.6349	0.1774	0.1042	0.2816	0.0000	650.2541	650.2541	0.0882	0.0283	660.8937
2023	1.8317	1.1435	1.6261	4.2100e-003	0.2116	0.0466	0.2582	0.0571	0.0438	0.1008	0.0000	381.2632	381.2632	0.0409	0.0183	387.7354
Maximum	**1.8317**	**2.5980**	**2.8555**	**7.2000e-003**	**0.5235**	**0.1114**	**0.6349**	**0.1774**	**0.1042**	**0.2816**	**0.0000**	**650.2541**	**650.2541**	**0.0882**	**0.0283**	**660.8937**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2022**	**5-31-2022**	1.0309	1.0309
2	**6-1-2022**	**8-31-2022**	0.7820	0.7820
3	**9-1-2022**	**11-30-2022**	0.7776	0.7776
4	**12-1-2022**	**2-28-2023**	0.7156	0.7156
5	**3-1-2023**	**5-31-2023**	0.6981	0.6981
6	**6-1-2023**	**8-31-2023**	1.2788	1.2788
7	**9-1-2023**	**9-30-2023**	0.4675	0.4675
		Highest	1.2788	1.2788

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4531	4.0000e-005	4.5600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8700e-003	8.8700e-003	2.0000e-005	0.0000	9.4500e-003
Energy	0.0226	0.2054	0.1725	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	863.6837	863.6837	0.0583	0.0107	868.3145
Mobile	0.3089	3.2264	3.4826	0.0235	1.3677	0.0386	1.4063	0.3748	0.0368	0.4116	0.0000	2,237.4501	2,237.4501	0.0476	0.2681	2,318.5173
Offroad	0.0533	0.4990	0.5953	7.9000e-004		0.0308	0.0308		0.0284	0.0284	0.0000	69.8314	69.8314	0.0226	0.0000	70.3960
Waste						0.0000	0.0000		0.0000	0.0000	66.8754	0.0000	66.8754	3.9522	0.0000	165.6809
Water						0.0000	0.0000		0.0000	0.0000	25.7130	187.1585	212.8715	2.6568	0.0643	298.4441
Total	**1.8379**	**3.9308**	**4.2550**	**0.0255**	**1.3677**	**0.0850**	**1.4527**	**0.3748**	**0.0808**	**0.4556**	**92.5883**	**3,358.1327**	**3,450.7210**	**6.7375**	**0.3430**	**3,721.3623**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4531	4.0000e-005	4.5600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8700e-003	8.8700e-003	2.0000e-005	0.0000	9.4500e-003
Energy	0.0226	0.2054	0.1725	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	863.6837	863.6837	0.0583	0.0107	868.3145
Mobile	0.3089	3.2264	3.4826	0.0235	1.3677	0.0386	1.4063	0.3748	0.0368	0.4116	0.0000	2,237.4501	2,237.4501	0.0476	0.2681	2,318.5173
Offroad	0.0533	0.4990	0.5953	7.9000e-004		0.0308	0.0308		0.0284	0.0284	0.0000	69.8314	69.8314	0.0226	0.0000	70.3960
Waste						0.0000	0.0000		0.0000	0.0000	66.8754	0.0000	66.8754	3.9522	0.0000	165.6809
Water						0.0000	0.0000		0.0000	0.0000	20.5704	149.7268	170.2972	2.1254	0.0514	238.7553
Total	**1.8379**	**3.9308**	**4.2550**	**0.0255**	**1.3677**	**0.0850**	**1.4527**	**0.3748**	**0.0808**	**0.4556**	**87.4457**	**3,320.7010**	**3,408.1467**	**6.2061**	**0.3301**	**3,661.6735**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.55**	**1.11**	**1.23**	**7.89**	**3.75**	**1.60**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	3/24/2022	5	18	
2	Site Preparation	Site Preparation	3/29/2022	4/8/2022	5	9	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3	Grading	Grading	4/12/2022	5/18/2022	5	27	
4	Building Construction	Building Construction	5/24/2022	6/5/2023	5	270	
5	Paving	Paving	7/18/2023	8/10/2023	5	18	
6	Architectural Coating	Architectural Coating	8/15/2023	9/7/2023	5	18	

Acres of Grading (Site Preparation Phase): 13.5

Acres of Grading (Grading Phase): 81

Acres of Paving: 6.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 525,722; Non-Residential Outdoor: 175,241; Striped Parking Area: 18,138 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	6.00	96.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	274.00	107.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	55.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0104	0.0000	0.0104	1.5800e-003	0.0000	1.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0238	0.2315	0.1854	3.5000e-004		0.0112	0.0112		0.0104	0.0104	0.0000	30.5912	30.5912	8.5900e-003	0.0000	30.8060
Total	**0.0238**	**0.2315**	**0.1854**	**3.5000e-004**	**0.0104**	**0.0112**	**0.0216**	**1.5800e-003**	**0.0104**	**0.0120**	**0.0000**	**30.5912**	**30.5912**	**8.5900e-003**	**0.0000**	**30.8060**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	6.4600e-003	1.3800e-003	3.0000e-005	8.3000e-004	7.0000e-005	9.0000e-004	2.3000e-004	7.0000e-005	3.0000e-004	0.0000	2.6717	2.6717	4.0000e-005	4.2000e-004	2.7980
Vendor	9.0000e-005	2.4000e-003	8.1000e-004	1.0000e-005	3.4000e-004	3.0000e-005	3.7000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	0.9456	0.9456	1.0000e-005	1.4000e-004	0.9877
Worker	4.7000e-004	3.7000e-004	4.5900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1658	1.1658	3.0000e-005	3.0000e-005	1.1762
Total	**7.1000e-004**	**9.2300e-003**	**6.7800e-003**	**5.0000e-005**	**2.6500e-003**	**1.1000e-004**	**2.7600e-003**	**7.2000e-004**	**1.1000e-004**	**8.3000e-004**	**0.0000**	**4.7831**	**4.7831**	**8.0000e-005**	**5.9000e-004**	**4.9619**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0104	0.0000	0.0104	1.5800e-003	0.0000	1.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0238	0.2315	0.1854	3.5000e-004		0.0112	0.0112		0.0104	0.0104	0.0000	30.5912	30.5912	8.5900e-003	0.0000	30.8060
Total	**0.0238**	**0.2315**	**0.1854**	**3.5000e-004**	**0.0104**	**0.0112**	**0.0216**	**1.5800e-003**	**0.0104**	**0.0120**	**0.0000**	**30.5912**	**30.5912**	**8.5900e-003**	**0.0000**	**30.8060**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	6.4600e-003	1.3800e-003	3.0000e-005	8.3000e-004	7.0000e-005	9.0000e-004	2.3000e-004	7.0000e-005	3.0000e-004	0.0000	2.6717	2.6717	4.0000e-005	4.2000e-004	2.7980
Vendor	9.0000e-005	2.4000e-003	8.1000e-004	1.0000e-005	3.4000e-004	3.0000e-005	3.7000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	0.9456	0.9456	1.0000e-005	1.4000e-004	0.9877
Worker	4.7000e-004	3.7000e-004	4.5900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1658	1.1658	3.0000e-005	3.0000e-005	1.1762
Total	**7.1000e-004**	**9.2300e-003**	**6.7800e-003**	**5.0000e-005**	**2.6500e-003**	**1.1000e-004**	**2.7600e-003**	**7.2000e-004**	**1.1000e-004**	**8.3000e-004**	**0.0000**	**4.7831**	**4.7831**	**8.0000e-005**	**5.9000e-004**	**4.9619**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0885	0.0000	0.0885	0.0455	0.0000	0.0455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.1489	0.0886	1.7000e-004		7.2600e-003	7.2600e-003		6.6800e-003	6.6800e-003	0.0000	15.0477	15.0477	4.8700e-003	0.0000	15.1694
Total	**0.0143**	**0.1489**	**0.0886**	**1.7000e-004**	**0.0885**	**7.2600e-003**	**0.0957**	**0.0455**	**6.6800e-003**	**0.0521**	**0.0000**	**15.0477**	**15.0477**	**4.8700e-003**	**0.0000**	**15.1694**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.2000e-003	4.0000e-004	0.0000	1.7000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4728	0.4728	0.0000	7.0000e-005	0.4939
Worker	2.8000e-004	2.2000e-004	2.7600e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6995	0.6995	2.0000e-005	2.0000e-005	0.7057
Total	**3.2000e-004**	**1.4200e-003**	**3.1600e-003**	**1.0000e-005**	**1.0600e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.1723**	**1.1723**	**2.0000e-005**	**9.0000e-005**	**1.1996**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0885	0.0000	0.0885	0.0455	0.0000	0.0455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.1489	0.0886	1.7000e-004		7.2600e-003	7.2600e-003		6.6800e-003	6.6800e-003	0.0000	15.0477	15.0477	4.8700e-003	0.0000	15.1694
Total	**0.0143**	**0.1489**	**0.0886**	**1.7000e-004**	**0.0885**	**7.2600e-003**	**0.0957**	**0.0455**	**6.6800e-003**	**0.0521**	**0.0000**	**15.0477**	**15.0477**	**4.8700e-003**	**0.0000**	**15.1694**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.2000e-003	4.0000e-004	0.0000	1.7000e-004	2.0000e-005	1.9000e-004	5.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4728	0.4728	0.0000	7.0000e-005	0.4939
Worker	2.8000e-004	2.2000e-004	2.7600e-003	1.0000e-005	8.9000e-004	0.0000	8.9000e-004	2.4000e-004	0.0000	2.4000e-004	0.0000	0.6995	0.6995	2.0000e-005	2.0000e-005	0.7057
Total	**3.2000e-004**	**1.4200e-003**	**3.1600e-003**	**1.0000e-005**	**1.0600e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.1723**	**1.1723**	**2.0000e-005**	**9.0000e-005**	**1.1996**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1243	0.0000	0.1243	0.0493	0.0000	0.0493	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0489	0.5244	0.3921	8.4000e-004		0.0221	0.0221		0.0203	0.0203	0.0000	73.6217	73.6217	0.0238	0.0000	74.2170
Total	**0.0489**	**0.5244**	**0.3921**	**8.4000e-004**	**0.1243**	**0.0221**	**0.1463**	**0.0493**	**0.0203**	**0.0696**	**0.0000**	**73.6217**	**73.6217**	**0.0238**	**0.0000**	**74.2170**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	3.6000e-003	1.2100e-003	1.0000e-005	5.1000e-004	5.0000e-005	5.6000e-004	1.5000e-004	5.0000e-005	1.9000e-004	0.0000	1.4185	1.4185	1.0000e-005	2.1000e-004	1.4816
Worker	9.4000e-004	7.3000e-004	9.1800e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.3315	2.3315	6.0000e-005	6.0000e-005	2.3525
Total	**1.0700e-003**	**4.3300e-003**	**0.0104**	**4.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5400e-003**	**9.4000e-004**	**6.0000e-005**	**9.9000e-004**	**0.0000**	**3.7500**	**3.7500**	**7.0000e-005**	**2.7000e-004**	**3.8340**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1243	0.0000	0.1243	0.0493	0.0000	0.0493	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0489	0.5244	0.3921	8.4000e-004		0.0221	0.0221		0.0203	0.0203	0.0000	73.6216	73.6216	0.0238	0.0000	74.2169
Total	**0.0489**	**0.5244**	**0.3921**	**8.4000e-004**	**0.1243**	**0.0221**	**0.1463**	**0.0493**	**0.0203**	**0.0696**	**0.0000**	**73.6216**	**73.6216**	**0.0238**	**0.0000**	**74.2169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3000e-004	3.6000e-003	1.2100e-003	1.0000e-005	5.1000e-004	5.0000e-005	5.6000e-004	1.5000e-004	5.0000e-005	1.9000e-004	0.0000	1.4185	1.4185	1.0000e-005	2.1000e-004	1.4816
Worker	9.4000e-004	7.3000e-004	9.1800e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.3315	2.3315	6.0000e-005	6.0000e-005	2.3525
Total	**1.0700e-003**	**4.3300e-003**	**0.0104**	**4.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5400e-003**	**9.4000e-004**	**6.0000e-005**	**9.9000e-004**	**0.0000**	**3.7500**	**3.7500**	**7.0000e-005**	**2.7000e-004**	**3.8340**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1357	1.2414	1.3009	2.1400e-003		0.0643	0.0643		0.0605	0.0605	0.0000	184.2216	184.2216	0.0441	0.0000	185.3249
Total	**0.1357**	**1.2414**	**1.3009**	**2.1400e-003**		**0.0643**	**0.0643**		**0.0605**	**0.0605**	**0.0000**	**184.2216**	**184.2216**	**0.0441**	**0.0000**	**185.3249**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0135	0.3776	0.1272	1.5500e-003	0.0537	5.1900e-003	0.0589	0.0155	4.9700e-003	0.0205	0.0000	148.9637	148.9637	1.5700e-003	0.0221	155.5901
Worker	0.0761	0.0593	0.7410	2.0500e-003	0.2394	1.2100e-003	0.2406	0.0636	1.1200e-003	0.0647	0.0000	188.1032	188.1032	5.0500e-003	5.2400e-003	189.7911
Total	**0.0896**	**0.4368**	**0.8682**	**3.6000e-003**	**0.2932**	**6.4000e-003**	**0.2996**	**0.0791**	**6.0900e-003**	**0.0852**	**0.0000**	**337.0669**	**337.0669**	**6.6200e-003**	**0.0273**	**345.3813**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1357	1.2414	1.3009	2.1400e-003		0.0643	0.0643		0.0605	0.0605	0.0000	184.2214	184.2214	0.0441	0.0000	185.3247
Total	**0.1357**	**1.2414**	**1.3009**	**2.1400e-003**		**0.0643**	**0.0643**		**0.0605**	**0.0605**	**0.0000**	**184.2214**	**184.2214**	**0.0441**	**0.0000**	**185.3247**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0135	0.3776	0.1272	1.5500e-003	0.0537	5.1900e-003	0.0589	0.0155	4.9700e-003	0.0205	0.0000	148.9637	148.9637	1.5700e-003	0.0221	155.5901
Worker	0.0761	0.0593	0.7410	2.0500e-003	0.2394	1.2100e-003	0.2406	0.0636	1.1200e-003	0.0647	0.0000	188.1032	188.1032	5.0500e-003	5.2400e-003	189.7911
Total	**0.0896**	**0.4368**	**0.8682**	**3.6000e-003**	**0.2932**	**6.4000e-003**	**0.2996**	**0.0791**	**6.0900e-003**	**0.0852**	**0.0000**	**337.0669**	**337.0669**	**6.6200e-003**	**0.0273**	**345.3813**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0873	0.7984	0.9015	1.5000e-003		0.0388	0.0388		0.0365	0.0365	0.0000	128.6516	128.6516	0.0306	0.0000	129.4167
Total	**0.0873**	**0.7984**	**0.9015**	**1.5000e-003**		**0.0388**	**0.0388**		**0.0365**	**0.0365**	**0.0000**	**128.6516**	**128.6516**	**0.0306**	**0.0000**	**129.4167**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4400e-003	0.2036	0.0811	1.0400e-003	0.0375	1.6900e-003	0.0392	0.0108	1.6200e-003	0.0124	0.0000	99.9156	99.9156	1.0100e-003	0.0148	104.3435
Worker	0.0493	0.0365	0.4761	1.3900e-003	0.1671	7.9000e-004	0.1679	0.0444	7.3000e-004	0.0451	0.0000	127.1082	127.1082	3.1700e-003	3.3800e-003	128.1932
Total	**0.0558**	**0.2402**	**0.5572**	**2.4300e-003**	**0.2047**	**2.4800e-003**	**0.2072**	**0.0552**	**2.3500e-003**	**0.0576**	**0.0000**	**227.0237**	**227.0237**	**4.1800e-003**	**0.0182**	**232.5367**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0873	0.7984	0.9015	1.5000e-003		0.0388	0.0388		0.0365	0.0365	0.0000	128.6515	128.6515	0.0306	0.0000	129.4166
Total	**0.0873**	**0.7984**	**0.9015**	**1.5000e-003**		**0.0388**	**0.0388**		**0.0365**	**0.0365**	**0.0000**	**128.6515**	**128.6515**	**0.0306**	**0.0000**	**129.4166**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4400e-003	0.2036	0.0811	1.0400e-003	0.0375	1.6900e-003	0.0392	0.0108	1.6200e-003	0.0124	0.0000	99.9156	99.9156	1.0100e-003	0.0148	104.3435
Worker	0.0493	0.0365	0.4761	1.3900e-003	0.1671	7.9000e-004	0.1679	0.0444	7.3000e-004	0.0451	0.0000	127.1082	127.1082	3.1700e-003	3.3800e-003	128.1932
Total	**0.0558**	**0.2402**	**0.5572**	**2.4300e-003**	**0.2047**	**2.4800e-003**	**0.2072**	**0.0552**	**2.3500e-003**	**0.0576**	**0.0000**	**227.0237**	**227.0237**	**4.1800e-003**	**0.0182**	**232.5367**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2900e-003	0.0917	0.1313	2.1000e-004		4.5900e-003	4.5900e-003		4.2200e-003	4.2200e-003	0.0000	18.0242	18.0242	5.8300e-003	0.0000	18.1699
Paving	9.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0184**	**0.0917**	**0.1313**	**2.1000e-004**		**4.5900e-003**	**4.5900e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**18.0242**	**18.0242**	**5.8300e-003**	**0.0000**	**18.1699**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.2000e-004	4.2300e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1284	1.1284	3.0000e-005	3.0000e-005	1.1380
Total	**4.4000e-004**	**3.2000e-004**	**4.2300e-003**	**1.0000e-005**	**1.4800e-003**	**1.0000e-005**	**1.4900e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.1284**	**1.1284**	**3.0000e-005**	**3.0000e-005**	**1.1380**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2900e-003	0.0917	0.1313	2.1000e-004		4.5900e-003	4.5900e-003		4.2200e-003	4.2200e-003	0.0000	18.0242	18.0242	5.8300e-003	0.0000	18.1699
Paving	9.0900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0184**	**0.0917**	**0.1313**	**2.1000e-004**		**4.5900e-003**	**4.5900e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**18.0242**	**18.0242**	**5.8300e-003**	**0.0000**	**18.1699**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.2000e-004	4.2300e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1284	1.1284	3.0000e-005	3.0000e-005	1.1380
Total	**4.4000e-004**	**3.2000e-004**	**4.2300e-003**	**1.0000e-005**	**1.4800e-003**	**1.0000e-005**	**1.4900e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.1284**	**1.1284**	**3.0000e-005**	**3.0000e-005**	**1.1380**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6665					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**1.6682**	**0.0117**	**0.0163**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6100e-003	1.1900e-003	0.0155	5.0000e-005	5.4400e-003	3.0000e-005	5.4700e-003	1.4400e-003	2.0000e-005	1.4700e-003	0.0000	4.1375	4.1375	1.0000e-004	1.1000e-004	4.1728
Total	**1.6100e-003**	**1.1900e-003**	**0.0155**	**5.0000e-005**	**5.4400e-003**	**3.0000e-005**	**5.4700e-003**	**1.4400e-003**	**2.0000e-005**	**1.4700e-003**	**0.0000**	**4.1375**	**4.1375**	**1.0000e-004**	**1.1000e-004**	**4.1728**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6665					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**1.6682**	**0.0117**	**0.0163**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6100e-003	1.1900e-003	0.0155	5.0000e-005	5.4400e-003	3.0000e-005	5.4700e-003	1.4400e-003	2.0000e-005	1.4700e-003	0.0000	4.1375	4.1375	1.0000e-004	1.1000e-004	4.1728
Total	**1.6100e-003**	**1.1900e-003**	**0.0155**	**5.0000e-005**	**5.4400e-003**	**3.0000e-005**	**5.4700e-003**	**1.4400e-003**	**2.0000e-005**	**1.4700e-003**	**0.0000**	**4.1375**	**4.1375**	**1.0000e-004**	**1.1000e-004**	**4.1728**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3089	3.2264	3.4826	0.0235	1.3677	0.0386	1.4063	0.3748	0.0368	0.4116	0.0000	2,237.4501	2,237.4501	0.0476	0.2681	2,318.5173
Unmitigated	0.3089	3.2264	3.4826	0.0235	1.3677	0.0386	1.4063	0.3748	0.0368	0.4116	0.0000	2,237.4501	2,237.4501	0.0476	0.2681	2,318.5173

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	114.26	114.26	114.26	1,551,496	1,551,496
Unrefrigerated Warehouse-No Rail	426.18	426.18	426.18	1,826,477	1,826,477
Total	540.44	540.44	540.44	3,377,973	3,377,973

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	40.00	8.40	40.00	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.167000	0.228000	0.605000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.576000	0.060000	0.186000	0.152000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.026000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	640.1086	640.1086	0.0540	6.5500e-003	643.4108
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	640.1086	640.1086	0.0540	6.5500e-003	643.4108
NaturalGas Mitigated	0.0226	0.2054	0.1725	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	223.5751	223.5751	4.2900e-003	4.1000e-003	224.9037
NaturalGas Unmitigated	0.0226	0.2054	0.1725	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	223.5751	223.5751	4.2900e-003	4.1000e-003	224.9037

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	3.62607e+006	0.0196	0.1778	0.1493	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.5007	193.5007	3.7100e-003	3.5500e-003	194.6506
Unrefrigerated Warehouse-No Rail	563574	3.0400e-003	0.0276	0.0232	1.7000e-004		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	30.0745	30.0745	5.8000e-004	5.5000e-004	30.2532
Total		**0.0226**	**0.2054**	**0.1725**	**1.2400e-003**		**0.0156**	**0.0156**		**0.0156**	**0.0156**	**0.0000**	**223.5751**	**223.5751**	**4.2900e-003**	**4.1000e-003**	**224.9037**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	3.62607e+006	0.0196	0.1778	0.1493	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.5007	193.5007	3.7100e-003	3.5500e-003	194.6506
Unrefrigerated Warehouse-No Rail	563574	3.0400e-003	0.0276	0.0232	1.7000e-004		2.1000e-003	2.1000e-003		2.1000e-003	2.1000e-003	0.0000	30.0745	30.0745	5.8000e-004	5.5000e-004	30.2532
Total		**0.0226**	**0.2054**	**0.1725**	**1.2400e-003**		**0.0156**	**0.0156**		**0.0156**	**0.0156**	**0.0000**	**223.5751**	**223.5751**	**4.2900e-003**	**4.1000e-003**	**224.9037**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	166269	29.4870	2.4900e-003	3.0000e-004	29.6391
Refrigerated Warehouse-No Rail	2.79262e+006	495.2595	0.0418	5.0700e-003	497.8145
Unrefrigerated Warehouse-No Rail	650493	115.3621	9.7400e-003	1.1800e-003	115.9572
Total		**640.1086**	**0.0540**	**6.5500e-003**	**643.4108**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	166269	29.4870	2.4900e-003	3.0000e-004	29.6391
Refrigerated Warehouse-No Rail	2.79262e+006	495.2595	0.0418	5.0700e-003	497.8145
Unrefrigerated Warehouse-No Rail	650493	115.3621	9.7400e-003	1.1800e-003	115.9572
Total		**640.1086**	**0.0540**	**6.5500e-003**	**643.4108**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4531	4.0000e-005	4.5600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8700e-003	8.8700e-003	2.0000e-005	0.0000	9.4500e-003
Unmitigated	1.4531	4.0000e-005	4.5600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8700e-003	8.8700e-003	2.0000e-005	0.0000	9.4500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1667					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2860					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.2000e-004	4.0000e-005	4.5600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8700e-003	8.8700e-003	2.0000e-005	0.0000	9.4500e-003
Total	**1.4531**	**4.0000e-005**	**4.5600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.8700e-003**	**8.8700e-003**	**2.0000e-005**	**0.0000**	**9.4500e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1667					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2860					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.2000e-004	4.0000e-005	4.5600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8700e-003	8.8700e-003	2.0000e-005	0.0000	9.4500e-003
Total	**1.4531**	**4.0000e-005**	**4.5600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.8700e-003**	**8.8700e-003**	**2.0000e-005**	**0.0000**	**9.4500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	170.2972	2.1254	0.0514	238.7553
Unmitigated	212.8715	2.6568	0.0643	298.4441

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	16.2106 / 0	42.5767	0.5314	0.0129	59.6922
Unrefrigerated Warehouse-No Rail	64.8379 / 0	170.2948	2.1254	0.0514	238.7519
Total		**212.8715**	**2.6568**	**0.0643**	**298.4441**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	12.9685 / 0	34.0614	0.4251	0.0103	47.7538
Unrefrigerated Warehouse-No Rail	51.8703 / 0	136.2358	1.7003	0.0411	191.0015
Total		**170.2972**	**2.1254**	**0.0514**	**238.7553**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	66.8754	3.9522	0.0000	165.6809
Unmitigated	66.8754	3.9522	0.0000	165.6809

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	65.89	13.3751	0.7904	0.0000	33.1362
Unrefrigerated Warehouse-No Rail	263.56	53.5003	3.1618	0.0000	132.5447
Total		**66.8754**	**3.9522**	**0.0000**	**165.6809**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	65.89	13.3751	0.7904	0.0000	33.1362
Unrefrigerated Warehouse-No Rail	263.56	53.5003	3.1618	0.0000	132.5447
Total		**66.8754**	**3.9522**	**0.0000**	**165.6809**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	4	8.00	260	89	0.20	Diesel

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	0.0533	0.4990	0.5953	7.9000e-004		0.0308	0.0308		0.0284	0.0284	0.0000	69.8314	69.8314	0.0226	0.0000	70.3960
Total	**0.0533**	**0.4990**	**0.5953**	**7.9000e-004**		**0.0308**	**0.0308**		**0.0284**	**0.0284**	**0.0000**	**69.8314**	**69.8314**	**0.0226**	**0.0000**	**70.3960**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Seaton Ave & Cajalco Rd Warehouse

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	70.10	1000sqft	2.64	70,096.00	0
Unrefrigerated Warehouse-No Rail	280.38	1000sqft	7.92	280,385.00	0
Parking Lot	6.94	Acre	6.94	302,306.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent with model's EA/MND.

Trips and VMT - Consistent with model's EA/MND

Demolition -

Grading -

Vehicle Trips - Consistent with EA/MND's model.

Energy Use - Consistent with EA/MND's model.

Water Mitigation -

Operational Off-Road Equipment - Consistent with EA/MND's model.

Fleet Mix - Consistent with EA/MND's model.

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Phase - See SWAPE's comments regarding "Unsusbtantiated Changes to Individual Construction Phase Lengths"

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	9.00
tblConstructionPhase	NumDays	30.00	27.00
tblConstructionPhase	NumDays	300.00	270.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	18.00
tblEnergyUse	NT24E	0.00	0.20
tblFleetMix	HHD	0.02	0.61
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.58
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.3100e-003	0.17
tblFleetMix	LHD2	7.3100e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MH	5.4680e-003	0.00
tblFleetMix	MH	5.4680e-003	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	MHD	0.01	0.23
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandUse	LandUseSquareFeet	70,100.00	70,096.00
tblLandUse	LandUseSquareFeet	280,380.00	280,385.00
tblLandUse	LotAcreage	1.61	2.64
tblLandUse	LotAcreage	6.44	7.92
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	CNW_TL	6.90	40.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	ST_TR	2.12	1.63
tblVehicleTrips	ST_TR	1.74	1.52
tblVehicleTrips	SU_TR	2.12	1.63
tblVehicleTrips	SU_TR	1.74	1.52
tblVehicleTrips	WD_TR	2.12	1.63
tblVehicleTrips	WD_TR	1.74	1.52

2.0 Emissions Summary

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.7134	39.1483	29.9259	0.0743	19.8966	1.6397	21.5139	10.1669	1.5086	11.6549	0.0000	7,432.5382	7,432.5382	1.9506	0.3758	7,562.1281
2023	185.5610	18.4988	27.7083	0.0726	3.7480	0.7445	4.4925	1.0096	0.7007	1.7103	0.0000	7,260.4582	7,260.4582	0.7174	0.3572	7,384.1848
Maximum	**185.5610**	**39.1483**	**29.9259**	**0.0743**	**19.8966**	**1.6397**	**21.5139**	**10.1669**	**1.5086**	**11.6549**	**0.0000**	**7,432.5382**	**7,432.5382**	**1.9506**	**0.3758**	**7,562.1281**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.7134	39.1483	29.9259	0.0743	19.8966	1.6397	21.5139	10.1669	1.5086	11.6549	0.0000	7,432.5382	7,432.5382	1.9506	0.3758	7,562.1281
2023	185.5610	18.4988	27.7083	0.0726	3.7480	0.7445	4.4925	1.0096	0.7007	1.7103	0.0000	7,260.4582	7,260.4582	0.7174	0.3572	7,384.1848
Maximum	**185.5610**	**39.1483**	**29.9259**	**0.0743**	**19.8966**	**1.6397**	**21.5139**	**10.1669**	**1.5086**	**11.6549**	**0.0000**	**7,432.5382**	**7,432.5382**	**1.9506**	**0.3758**	**7,562.1281**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Energy	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325
Mobile	1.9019	16.7578	20.8163	0.1317	7.6325	0.2120	7.8446	2.0884	0.2022	2.2906		13,803.8048	13,803.8048	0.2860	1.6190	14,293.4286
Offroad	0.4102	3.8387	4.5792	6.1100e-003		0.2372	0.2372		0.2182	0.2182	0.0000	592.1233	592.1233	0.1915		596.9109
Total	**10.3989**	**21.7222**	**26.3773**	**0.1445**	**7.6325**	**0.5349**	**8.1674**	**2.0884**	**0.5061**	**2.5945**	**0.0000**	**15,746.4140**	**15,746.4140**	**0.5036**	**1.6438**	**16,248.8554**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Energy	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325
Mobile	1.9019	16.7578	20.8163	0.1317	7.6325	0.2120	7.8446	2.0884	0.2022	2.2906		13,803.8048	13,803.8048	0.2860	1.6190	14,293.4286
Offroad	0.4102	3.8387	4.5792	6.1100e-003		0.2372	0.2372		0.2182	0.2182	0.0000	592.1233	592.1233	0.1915		596.9109
Total	**10.3989**	**21.7222**	**26.3773**	**0.1445**	**7.6325**	**0.5349**	**8.1674**	**2.0884**	**0.5061**	**2.5945**	**0.0000**	**15,746.4140**	**15,746.4140**	**0.5036**	**1.6438**	**16,248.8554**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	3/24/2022	5	18	
2	Site Preparation	Site Preparation	3/29/2022	4/8/2022	5	9	
3	Grading	Grading	4/12/2022	5/18/2022	5	27	
4	Building Construction	Building Construction	5/24/2022	6/5/2023	5	270	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5	Paving	Paving	7/18/2023	8/10/2023	5	18	
6	Architectural Coating	Architectural Coating	8/15/2023	9/7/2023	5	18	

Acres of Grading (Site Preparation Phase): 13.5

Acres of Grading (Grading Phase): 81

Acres of Paving: 6.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 525,722; Non-Residential Outdoor: 175,241; Striped Parking Area: 18,138 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	6.00	96.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	274.00	107.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	55.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1603	0.0000	1.1603	0.1757	0.0000	0.1757			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**1.1603**	**1.2427**	**2.4029**	**0.1757**	**1.1553**	**1.3309**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0169	0.6811	0.1515	3.0700e-003	0.0934	7.9200e-003	0.1013	0.0256	7.5700e-003	0.0332		327.1210	327.1210	4.4200e-003	0.0515	342.5878
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146		115.7672	115.7672	1.2300e-003	0.0172	120.9138
Worker	0.0591	0.0383	0.5972	1.5200e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		154.0341	154.0341	3.8400e-003	3.8100e-003	155.2664
Total	**0.0857**	**0.9732**	**0.8368**	**5.6800e-003**	**0.2994**	**0.0124**	**0.3119**	**0.0811**	**0.0118**	**0.0930**		**596.9223**	**596.9223**	**9.4900e-003**	**0.0725**	**618.7680**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1603	0.0000	1.1603	0.1757	0.0000	0.1757			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**1.1603**	**1.2427**	**2.4029**	**0.1757**	**1.1553**	**1.3309**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0169	0.6811	0.1515	3.0700e-003	0.0934	7.9200e-003	0.1013	0.0256	7.5700e-003	0.0332		327.1210	327.1210	4.4200e-003	0.0515	342.5878
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146		115.7672	115.7672	1.2300e-003	0.0172	120.9138
Worker	0.0591	0.0383	0.5972	1.5200e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		154.0341	154.0341	3.8400e-003	3.8100e-003	155.2664
Total	**0.0857**	**0.9732**	**0.8368**	**5.6800e-003**	**0.2994**	**0.0124**	**0.3119**	**0.0811**	**0.0118**	**0.0930**		**596.9223**	**596.9223**	**9.4900e-003**	**0.0725**	**618.7680**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6570**	**1.6126**	**21.2696**	**10.1025**	**1.4836**	**11.5860**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146		115.7672	115.7672	1.2300e-003	0.0172	120.9138
Worker	0.0709	0.0460	0.7166	1.8300e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		184.8409	184.8409	4.6100e-003	4.5800e-003	186.3197
Total	**0.0807**	**0.2997**	**0.8048**	**2.9200e-003**	**0.2396**	**4.6600e-003**	**0.2443**	**0.0644**	**4.4200e-003**	**0.0689**		**300.6081**	**300.6081**	**5.8400e-003**	**0.0218**	**307.2335**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6570**	**1.6126**	**21.2696**	**10.1025**	**1.4836**	**11.5860**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146		115.7672	115.7672	1.2300e-003	0.0172	120.9138
Worker	0.0709	0.0460	0.7166	1.8300e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		184.8409	184.8409	4.6100e-003	4.5800e-003	186.3197
Total	**0.0807**	**0.2997**	**0.8048**	**2.9200e-003**	**0.2396**	**4.6600e-003**	**0.2443**	**0.0644**	**4.4200e-003**	**0.0689**		**300.6081**	**300.6081**	**5.8400e-003**	**0.0218**	**307.2335**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146		115.7672	115.7672	1.2300e-003	0.0172	120.9138
Worker	0.0788	0.0511	0.7962	2.0300e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0200e-003	0.0603		205.3788	205.3788	5.1200e-003	5.0800e-003	207.0218
Total	**0.0886**	**0.3048**	**0.8844**	**3.1200e-003**	**0.2620**	**4.7700e-003**	**0.2668**	**0.0704**	**4.5200e-003**	**0.0749**		**321.1460**	**321.1460**	**6.3500e-003**	**0.0223**	**327.9357**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7600e-003	0.2537	0.0882	1.0900e-003	0.0384	3.6600e-003	0.0421	0.0111	3.5000e-003	0.0146		115.7672	115.7672	1.2300e-003	0.0172	120.9138
Worker	0.0788	0.0511	0.7962	2.0300e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0200e-003	0.0603		205.3788	205.3788	5.1200e-003	5.0800e-003	207.0218
Total	**0.0886**	**0.3048**	**0.8844**	**3.1200e-003**	**0.2620**	**4.7700e-003**	**0.2668**	**0.0704**	**4.5200e-003**	**0.0749**		**321.1460**	**321.1460**	**6.3500e-003**	**0.0223**	**327.9357**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1741	4.5246	1.5733	0.0195	0.6854	0.0652	0.7506	0.1973	0.0624	0.2597		2,064.5151	2,064.5151	0.0219	0.3062	2,156.2966
Worker	1.0794	0.6995	10.9079	0.0278	3.0627	0.0152	3.0779	0.8122	0.0140	0.8263		2,813.6895	2,813.6895	0.0701	0.0697	2,836.1993
Total	**1.2536**	**5.2241**	**12.4812**	**0.0473**	**3.7480**	**0.0805**	**3.8285**	**1.0096**	**0.0764**	**1.0860**		**4,878.2046**	**4,878.2046**	**0.0920**	**0.3758**	**4,992.4959**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1741	4.5246	1.5733	0.0195	0.6854	0.0652	0.7506	0.1973	0.0624	0.2597		2,064.5151	2,064.5151	0.0219	0.3062	2,156.2966
Worker	1.0794	0.6995	10.9079	0.0278	3.0627	0.0152	3.0779	0.8122	0.0140	0.8263		2,813.6895	2,813.6895	0.0701	0.0697	2,836.1993
Total	**1.2536**	**5.2241**	**12.4812**	**0.0473**	**3.7480**	**0.0805**	**3.8285**	**1.0096**	**0.0764**	**1.0860**		**4,878.2046**	**4,878.2046**	**0.0920**	**0.3758**	**4,992.4959**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1206	3.4958	1.4394	0.0187	0.6853	0.0305	0.7158	0.1973	0.0291	0.2265		1,982.3997	1,982.3997	0.0202	0.2929	2,070.2010
Worker	1.0004	0.6182	10.0249	0.0269	3.0627	0.0143	3.0770	0.8122	0.0132	0.8254		2,722.8485	2,722.8485	0.0630	0.0643	2,743.5777
Total	**1.1210**	**4.1139**	**11.4643**	**0.0456**	**3.7480**	**0.0448**	**3.7928**	**1.0096**	**0.0423**	**1.0519**		**4,705.2482**	**4,705.2482**	**0.0832**	**0.3572**	**4,813.7787**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1206	3.4958	1.4394	0.0187	0.6853	0.0305	0.7158	0.1973	0.0291	0.2265		1,982.3997	1,982.3997	0.0202	0.2929	2,070.2010
Worker	1.0004	0.6182	10.0249	0.0269	3.0627	0.0143	3.0770	0.8122	0.0132	0.8254		2,722.8485	2,722.8485	0.0630	0.0643	2,743.5777
Total	**1.1210**	**4.1139**	**11.4643**	**0.0456**	**3.7480**	**0.0448**	**3.7928**	**1.0096**	**0.0423**	**1.0519**		**4,705.2482**	**4,705.2482**	**0.0832**	**0.3572**	**4,813.7787**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0429**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0548	0.0338	0.5488	1.4700e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		149.0611	149.0611	3.4500e-003	3.5200e-003	150.1959
Total	**0.0548**	**0.0338**	**0.5488**	**1.4700e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**149.0611**	**149.0611**	**3.4500e-003**	**3.5200e-003**	**150.1959**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0429**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0548	0.0338	0.5488	1.4700e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		149.0611	149.0611	3.4500e-003	3.5200e-003	150.1959
Total	**0.0548**	**0.0338**	**0.5488**	**1.4700e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**149.0611**	**149.0611**	**3.4500e-003**	**3.5200e-003**	**150.1959**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	185.1685					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**185.3602**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2008	0.1241	2.0123	5.4100e-003	0.6148	2.8800e-003	0.6177	0.1630	2.6500e-003	0.1657		546.5572	546.5572	0.0126	0.0129	550.7182
Total	**0.2008**	**0.1241**	**2.0123**	**5.4100e-003**	**0.6148**	**2.8800e-003**	**0.6177**	**0.1630**	**2.6500e-003**	**0.1657**		**546.5572**	**546.5572**	**0.0126**	**0.0129**	**550.7182**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	185.1685					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**185.3602**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2008	0.1241	2.0123	5.4100e-003	0.6148	2.8800e-003	0.6177	0.1630	2.6500e-003	0.1657		546.5572	546.5572	0.0126	0.0129	550.7182
Total	**0.2008**	**0.1241**	**2.0123**	**5.4100e-003**	**0.6148**	**2.8800e-003**	**0.6177**	**0.1630**	**2.6500e-003**	**0.1657**		**546.5572**	**546.5572**	**0.0126**	**0.0129**	**550.7182**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9019	16.7578	20.8163	0.1317	7.6325	0.2120	7.8446	2.0884	0.2022	2.2906		13,803.8048	13,803.8048	0.2860	1.6190	14,293.4286
Unmitigated	1.9019	16.7578	20.8163	0.1317	7.6325	0.2120	7.8446	2.0884	0.2022	2.2906		13,803.8048	13,803.8048	0.2860	1.6190	14,293.4286

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	114.26	114.26	114.26	1,551,496	1,551,496
Unrefrigerated Warehouse-No Rail	426.18	426.18	426.18	1,826,477	1,826,477
Total	540.44	540.44	540.44	3,377,973	3,377,973

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	40.00	8.40	40.00	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.167000	0.228000	0.605000	0.000000	0.000000	0.000000	0.000000	0.000000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unrefrigerated Warehouse-No Rail	0.576000	0.060000	0.186000	0.152000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.026000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325
NaturalGas Unmitigated	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9934.43	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7562	1,168.7562	0.0224	0.0214	1,175.7015
Unrefrigerated Warehouse-No Rail	1544.04	0.0167	0.1514	0.1272	9.1000e-004		0.0115	0.0115		0.0115	0.0115		181.6515	181.6515	3.4800e-003	3.3300e-003	182.7310
Total		**0.1238**	**1.1253**	**0.9453**	**6.7500e-003**		**0.0855**	**0.0855**		**0.0855**	**0.0855**		**1,350.4077**	**1,350.4077**	**0.0259**	**0.0248**	**1,358.4325**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.93443	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7562	1,168.7562	0.0224	0.0214	1,175.7015
Unrefrigerated Warehouse-No Rail	1.54404	0.0167	0.1514	0.1272	9.1000e-004		0.0115	0.0115		0.0115	0.0115		181.6515	181.6515	3.4800e-003	3.3300e-003	182.7310
Total		**0.1238**	**1.1253**	**0.9453**	**6.7500e-003**		**0.0855**	**0.0855**		**0.0855**	**0.0855**		**1,350.4077**	**1,350.4077**	**0.0259**	**0.0248**	**1,358.4325**

6.0 Area Detail

6.1 Mitigation Measures Area

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Unmitigated	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3800e-003	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Total	**7.9631**	**3.3000e-004**	**0.0365**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0782**	**0.0782**	**2.1000e-004**		**0.0834**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3800e-003	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Total	**7.9631**	**3.3000e-004**	**0.0365**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0782**	**0.0782**	**2.1000e-004**		**0.0834**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	4	8.00	260	89	0.20	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	0.4102	3.8387	4.5792	6.1100e-003		0.2372	0.2372		0.2182	0.2182	0.0000	592.1233	592.1233	0.1915		596.9109
Total	**0.4102**	**3.8387**	**4.5792**	**6.1100e-003**		**0.2372**	**0.2372**		**0.2182**	**0.2182**	**0.0000**	**592.1233**	**592.1233**	**0.1915**		**596.9109**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Seaton Ave & Cajalco Rd Warehouse

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	70.10	1000sqft	2.64	70,096.00	0
Unrefrigerated Warehouse-No Rail	280.38	1000sqft	7.92	280,385.00	0
Parking Lot	6.94	Acre	6.94	302,306.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent with model's EA/MND.

Trips and VMT - Consistent with model's EA/MND

Demolition -

Grading -

Vehicle Trips - Consistent with EA/MND's model.

Energy Use - Consistent with EA/MND's model.

Water Mitigation -

Operational Off-Road Equipment - Consistent with EA/MND's model.

Fleet Mix - Consistent with EA/MND's model.

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Phase - See SWAPE's comments regarding "Unsusbtantiated Changes to Individual Construction Phase Lengths"

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	9.00
tblConstructionPhase	NumDays	30.00	27.00
tblConstructionPhase	NumDays	300.00	270.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	18.00
tblEnergyUse	NT24E	0.00	0.20
tblFleetMix	HHD	0.02	0.61
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.58
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.3100e-003	0.17
tblFleetMix	LHD2	7.3100e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MCY	0.02	0.03
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MH	5.4680e-003	0.00
tblFleetMix	MH	5.4680e-003	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFleetMix	MHD	0.01	0.23
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	OBUS	6.1600e-004	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	SBUS	1.1000e-003	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblFleetMix	UBUS	3.1500e-004	0.00
tblLandUse	LandUseSquareFeet	70,100.00	70,096.00
tblLandUse	LandUseSquareFeet	280,380.00	280,385.00
tblLandUse	LotAcreage	1.61	2.64
tblLandUse	LotAcreage	6.44	7.92
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	CNW_TL	6.90	40.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	ST_TR	2.12	1.63
tblVehicleTrips	ST_TR	1.74	1.52
tblVehicleTrips	SU_TR	2.12	1.63
tblVehicleTrips	SU_TR	1.74	1.52
tblVehicleTrips	WD_TR	2.12	1.63
tblVehicleTrips	WD_TR	1.74	1.52

2.0 Emissions Summary

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.7078	39.1638	29.7784	0.0717	19.8966	1.6397	21.5139	10.1669	1.5086	11.6549	0.0000	7,169.7318	7,169.7318	1.9505	0.3780	7,299.9646
2023	185.5484	18.7336	25.8722	0.0701	3.7480	0.7446	4.4926	1.0096	0.7008	1.7104	0.0000	7,009.6897	7,009.6897	0.7174	0.3597	7,134.1410
Maximum	**185.5484**	**39.1638**	**29.7784**	**0.0717**	**19.8966**	**1.6397**	**21.5139**	**10.1669**	**1.5086**	**11.6549**	**0.0000**	**7,169.7318**	**7,169.7318**	**1.9505**	**0.3780**	**7,299.9646**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.7078	39.1638	29.7784	0.0717	19.8966	1.6397	21.5139	10.1669	1.5086	11.6549	0.0000	7,169.7318	7,169.7318	1.9505	0.3780	7,299.9646
2023	185.5484	18.7336	25.8722	0.0701	3.7480	0.7446	4.4926	1.0096	0.7008	1.7104	0.0000	7,009.6897	7,009.6897	0.7174	0.3597	7,134.1410
Maximum	**185.5484**	**39.1638**	**29.7784**	**0.0717**	**19.8966**	**1.6397**	**21.5139**	**10.1669**	**1.5086**	**11.6549**	**0.0000**	**7,169.7318**	**7,169.7318**	**1.9505**	**0.3780**	**7,299.9646**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Energy	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325
Mobile	1.6751	17.6893	18.5941	0.1287	7.6325	0.2122	7.8447	2.0884	0.2024	2.2907		13,502.7483	13,502.7483	0.2881	1.6245	13,994.0592
Offroad	0.4102	3.8387	4.5792	6.1100e-003		0.2372	0.2372		0.2182	0.2182	0.0000	592.1233	592.1233	0.1915		596.9109
Total	**10.1722**	**22.6537**	**24.1550**	**0.1415**	**7.6325**	**0.5350**	**8.1676**	**2.0884**	**0.5063**	**2.5946**	**0.0000**	**15,445.3576**	**15,445.3576**	**0.5057**	**1.6493**	**15,949.4860**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Energy	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325
Mobile	1.6751	17.6893	18.5941	0.1287	7.6325	0.2122	7.8447	2.0884	0.2024	2.2907		13,502.7483	13,502.7483	0.2881	1.6245	13,994.0592
Offroad	0.4102	3.8387	4.5792	6.1100e-003		0.2372	0.2372		0.2182	0.2182	0.0000	592.1233	592.1233	0.1915		596.9109
Total	**10.1722**	**22.6537**	**24.1550**	**0.1415**	**7.6325**	**0.5350**	**8.1676**	**2.0884**	**0.5063**	**2.5946**	**0.0000**	**15,445.3576**	**15,445.3576**	**0.5057**	**1.6493**	**15,949.4860**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	3/24/2022	5	18	
2	Site Preparation	Site Preparation	3/29/2022	4/8/2022	5	9	
3	Grading	Grading	4/12/2022	5/18/2022	5	27	
4	Building Construction	Building Construction	5/24/2022	6/5/2023	5	270	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5	Paving	Paving	7/18/2023	8/10/2023	5	18	
6	Architectural Coating	Architectural Coating	8/15/2023	9/7/2023	5	18	

Acres of Grading (Site Preparation Phase): 13.5

Acres of Grading (Grading Phase): 81

Acres of Paving: 6.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 525,722; Non-Residential Outdoor: 175,241; Striped Parking Area: 18,138 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	6.00	96.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	274.00	107.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	55.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1603	0.0000	1.1603	0.1757	0.0000	0.1757			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**1.1603**	**1.2427**	**2.4029**	**0.1757**	**1.1553**	**1.3309**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0161	0.7185	0.1556	3.0700e-003	0.0934	7.9300e-003	0.1013	0.0256	7.5800e-003	0.0332		327.3708	327.3708	4.3900e-003	0.0516	342.8484
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146		115.8935	115.8935	1.2100e-003	0.0172	121.0492
Worker	0.0552	0.0398	0.4840	1.3800e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		139.5236	139.5236	3.8100e-003	3.9000e-003	140.7822
Total	**0.0806**	**1.0255**	**0.7312**	**5.5400e-003**	**0.2994**	**0.0124**	**0.3119**	**0.0811**	**0.0119**	**0.0930**		**582.7878**	**582.7878**	**9.4100e-003**	**0.0727**	**604.6798**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1603	0.0000	1.1603	0.1757	0.0000	0.1757			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**1.1603**	**1.2427**	**2.4029**	**0.1757**	**1.1553**	**1.3309**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0161	0.7185	0.1556	3.0700e-003	0.0934	7.9300e-003	0.1013	0.0256	7.5800e-003	0.0332		327.3708	327.3708	4.3900e-003	0.0516	342.8484
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146		115.8935	115.8935	1.2100e-003	0.0172	121.0492
Worker	0.0552	0.0398	0.4840	1.3800e-003	0.1677	8.3000e-004	0.1685	0.0445	7.7000e-004	0.0452		139.5236	139.5236	3.8100e-003	3.9000e-003	140.7822
Total	**0.0806**	**1.0255**	**0.7312**	**5.5400e-003**	**0.2994**	**0.0124**	**0.3119**	**0.0811**	**0.0119**	**0.0930**		**582.7878**	**582.7878**	**9.4100e-003**	**0.0727**	**604.6798**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6570**	**1.6126**	**21.2696**	**10.1025**	**1.4836**	**11.5860**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146		115.8935	115.8935	1.2100e-003	0.0172	121.0492
Worker	0.0662	0.0477	0.5807	1.6600e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		167.4284	167.4284	4.5800e-003	4.6800e-003	168.9386
Total	**0.0756**	**0.3150**	**0.6724**	**2.7500e-003**	**0.2396**	**4.6700e-003**	**0.2443**	**0.0644**	**4.4300e-003**	**0.0689**		**283.3218**	**283.3218**	**5.7900e-003**	**0.0219**	**289.9879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6570**	**1.6126**	**21.2696**	**10.1025**	**1.4836**	**11.5860**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146		115.8935	115.8935	1.2100e-003	0.0172	121.0492
Worker	0.0662	0.0477	0.5807	1.6600e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		167.4284	167.4284	4.5800e-003	4.6800e-003	168.9386
Total	**0.0756**	**0.3150**	**0.6724**	**2.7500e-003**	**0.2396**	**4.6700e-003**	**0.2443**	**0.0644**	**4.4300e-003**	**0.0689**		**283.3218**	**283.3218**	**5.7900e-003**	**0.0219**	**289.9879**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146		115.8935	115.8935	1.2100e-003	0.0172	121.0492
Worker	0.0736	0.0530	0.6453	1.8400e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0200e-003	0.0603		186.0315	186.0315	5.0800e-003	5.2000e-003	187.7096
Total	**0.0830**	**0.3203**	**0.7369**	**2.9300e-003**	**0.2620**	**4.7800e-003**	**0.2668**	**0.0704**	**4.5300e-003**	**0.0749**		**301.9250**	**301.9250**	**6.2900e-003**	**0.0224**	**308.7588**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**9.2036**	**1.6349**	**10.8385**	**3.6538**	**1.5041**	**5.1579**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3500e-003	0.2673	0.0916	1.0900e-003	0.0384	3.6700e-003	0.0421	0.0111	3.5100e-003	0.0146		115.8935	115.8935	1.2100e-003	0.0172	121.0492
Worker	0.0736	0.0530	0.6453	1.8400e-003	0.2236	1.1100e-003	0.2247	0.0593	1.0200e-003	0.0603		186.0315	186.0315	5.0800e-003	5.2000e-003	187.7096
Total	**0.0830**	**0.3203**	**0.7369**	**2.9300e-003**	**0.2620**	**4.7800e-003**	**0.2668**	**0.0704**	**4.5300e-003**	**0.0749**		**301.9250**	**301.9250**	**6.2900e-003**	**0.0224**	**308.7588**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1667	4.7668	1.6337	0.0195	0.6854	0.0654	0.7508	0.1973	0.0626	0.2599		2,066.7667	2,066.7667	0.0215	0.3067	2,158.7110
Worker	1.0084	0.7261	8.8402	0.0252	3.0627	0.0152	3.0779	0.8122	0.0140	0.8263		2,548.6315	2,548.6315	0.0697	0.0713	2,571.6215
Total	**1.1750**	**5.4928**	**10.4739**	**0.0447**	**3.7480**	**0.0806**	**3.8287**	**1.0096**	**0.0766**	**1.0862**		**4,615.3982**	**4,615.3982**	**0.0912**	**0.3780**	**4,730.3324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1667	4.7668	1.6337	0.0195	0.6854	0.0654	0.7508	0.1973	0.0626	0.2599		2,066.7667	2,066.7667	0.0215	0.3067	2,158.7110
Worker	1.0084	0.7261	8.8402	0.0252	3.0627	0.0152	3.0779	0.8122	0.0140	0.8263		2,548.6315	2,548.6315	0.0697	0.0713	2,571.6215
Total	**1.1750**	**5.4928**	**10.4739**	**0.0447**	**3.7480**	**0.0806**	**3.8287**	**1.0096**	**0.0766**	**1.0862**		**4,615.3982**	**4,615.3982**	**0.0912**	**0.3780**	**4,730.3324**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1117	3.7073	1.4878	0.0187	0.6853	0.0306	0.7159	0.1973	0.0292	0.2266		1,987.3196	1,987.3196	0.0198	0.2939	2,075.4016
Worker	0.9377	0.6414	8.1404	0.0244	3.0627	0.0143	3.0770	0.8122	0.0132	0.8254		2,467.1602	2,467.1602	0.0627	0.0658	2,488.3334
Total	**1.0494**	**4.3487**	**9.6282**	**0.0432**	**3.7480**	**0.0449**	**3.7929**	**1.0096**	**0.0424**	**1.0520**		**4,454.4798**	**4,454.4798**	**0.0826**	**0.3597**	**4,563.7350**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1117	3.7073	1.4878	0.0187	0.6853	0.0306	0.7159	0.1973	0.0292	0.2266		1,987.3196	1,987.3196	0.0198	0.2939	2,075.4016
Worker	0.9377	0.6414	8.1404	0.0244	3.0627	0.0143	3.0770	0.8122	0.0132	0.8254		2,467.1602	2,467.1602	0.0627	0.0658	2,488.3334
Total	**1.0494**	**4.3487**	**9.6282**	**0.0432**	**3.7480**	**0.0449**	**3.7929**	**1.0096**	**0.0424**	**1.0520**		**4,454.4798**	**4,454.4798**	**0.0826**	**0.3597**	**4,563.7350**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0429**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0513	0.0351	0.4456	1.3400e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		135.0635	135.0635	3.4300e-003	3.6000e-003	136.2226
Total	**0.0513**	**0.0351**	**0.4456**	**1.3400e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**135.0635**	**135.0635**	**3.4300e-003**	**3.6000e-003**	**136.2226**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	1.0102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0429**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0513	0.0351	0.4456	1.3400e-003	0.1677	7.8000e-004	0.1685	0.0445	7.2000e-004	0.0452		135.0635	135.0635	3.4300e-003	3.6000e-003	136.2226
Total	**0.0513**	**0.0351**	**0.4456**	**1.3400e-003**	**0.1677**	**7.8000e-004**	**0.1685**	**0.0445**	**7.2000e-004**	**0.0452**		**135.0635**	**135.0635**	**3.4300e-003**	**3.6000e-003**	**136.2226**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	185.1685					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**185.3602**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1882	0.1287	1.6340	4.9000e-003	0.6148	2.8800e-003	0.6177	0.1630	2.6500e-003	0.1657		495.2329	495.2329	0.0126	0.0132	499.4830
Total	**0.1882**	**0.1287**	**1.6340**	**4.9000e-003**	**0.6148**	**2.8800e-003**	**0.6177**	**0.1630**	**2.6500e-003**	**0.1657**		**495.2329**	**495.2329**	**0.0126**	**0.0132**	**499.4830**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	185.1685					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**185.3602**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1882	0.1287	1.6340	4.9000e-003	0.6148	2.8800e-003	0.6177	0.1630	2.6500e-003	0.1657		495.2329	495.2329	0.0126	0.0132	499.4830
Total	**0.1882**	**0.1287**	**1.6340**	**4.9000e-003**	**0.6148**	**2.8800e-003**	**0.6177**	**0.1630**	**2.6500e-003**	**0.1657**		**495.2329**	**495.2329**	**0.0126**	**0.0132**	**499.4830**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6751	17.6893	18.5941	0.1287	7.6325	0.2122	7.8447	2.0884	0.2024	2.2907		13,502.7483	13,502.7483	0.2881	1.6245	13,994.0592
Unmitigated	1.6751	17.6893	18.5941	0.1287	7.6325	0.2122	7.8447	2.0884	0.2024	2.2907		13,502.7483	13,502.7483	0.2881	1.6245	13,994.0592

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	114.26	114.26	114.26	1,551,496	1,551,496
Unrefrigerated Warehouse-No Rail	426.18	426.18	426.18	1,826,477	1,826,477
Total	540.44	540.44	540.44	3,377,973	3,377,973

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	40.00	8.40	40.00	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.534849	0.056022	0.172639	0.141007	0.026597	0.007310	0.011327	0.018693	0.000616	0.000315	0.024057	0.001100	0.005468
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.167000	0.228000	0.605000	0.000000	0.000000	0.000000	0.000000	0.000000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unrefrigerated Warehouse-No Rail	0.576000	0.060000	0.186000	0.152000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.026000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325
NaturalGas Unmitigated	0.1238	1.1253	0.9453	6.7500e-003		0.0855	0.0855		0.0855	0.0855		1,350.4077	1,350.4077	0.0259	0.0248	1,358.4325

Seaton Ave & Cajalco Rd Warehouse - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9934.43	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7562	1,168.7562	0.0224	0.0214	1,175.7015
Unrefrigerated Warehouse-No Rail	1544.04	0.0167	0.1514	0.1272	9.1000e-004		0.0115	0.0115		0.0115	0.0115		181.6515	181.6515	3.4800e-003	3.3300e-003	182.7310
Total		**0.1238**	**1.1253**	**0.9453**	**6.7500e-003**		**0.0855**	**0.0855**		**0.0855**	**0.0855**		**1,350.4077**	**1,350.4077**	**0.0259**	**0.0248**	**1,358.4325**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.93443	0.1071	0.9740	0.8181	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.7562	1,168.7562	0.0224	0.0214	1,175.7015
Unrefrigerated Warehouse-No Rail	1.54404	0.0167	0.1514	0.1272	9.1000e-004		0.0115	0.0115		0.0115	0.0115		181.6515	181.6515	3.4800e-003	3.3300e-003	182.7310
Total		**0.1238**	**1.1253**	**0.9453**	**6.7500e-003**		**0.0855**	**0.0855**		**0.0855**	**0.0855**		**1,350.4077**	**1,350.4077**	**0.0259**	**0.0248**	**1,358.4325**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Unmitigated	7.9631	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3800e-003	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Total	**7.9631**	**3.3000e-004**	**0.0365**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0782**	**0.0782**	**2.1000e-004**		**0.0834**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9132					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3800e-003	3.3000e-004	0.0365	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0782	0.0782	2.1000e-004		0.0834
Total	**7.9631**	**3.3000e-004**	**0.0365**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0782**	**0.0782**	**2.1000e-004**		**0.0834**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	4	8.00	260	89	0.20	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	0.4102	3.8387	4.5792	6.1100e-003		0.2372	0.2372		0.2182	0.2182	0.0000	592.1233	592.1233	0.1915		596.9109
Total	**0.4102**	**3.8387**	**4.5792**	**6.1100e-003**		**0.2372**	**0.2372**		**0.2182**	**0.2182**	**0.0000**	**592.1233**	**592.1233**	**0.1915**		**596.9109**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Construction				
2022			**Total**	
Annual Emissions (tons/year)	0.1228		Total DPM (lbs)	303.5906849
Daily Emissions (lbs/day)	0.672876712		Total DPM (g)	137708.7347
Construction Duration (days)	306		Emission Rate (g/s)	0.00316869
Total DPM (lbs)	205.900274		Release Height (meters)	3
Total DPM (g)	93396.36427		Total Acreage	17.5
Start Date	3/1/2022		Max Horizontal (meters)	376.35
End Date	1/1/2023		Min Horizontal (meters)	188.18
Construction Days	306		Initial Vertical Dimension (meters)	1.5
2023			Setting	Urban
Annual Emissions (tons/year)	0.0905		Population	317,261
Daily Emissions (lbs/day)	0.495890411		Start Date	3/1/2022
Construction Duration (days)	197		End Date	7/17/2023
Total DPM (lbs)	97.69041096		Total Construction Days	503
Total DPM (g)	44312.37041		Total Years of Construction	1.38
Start Date	1/1/2023		Total Years of Operation	28.62
End Date	7/17/2023			
Construction Days	197			

Start date and time 09/30/22 11:10:56

AERSCREEN 21112

Seaton, Construction

Seaton, Construction

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.317E-02 g/s	0.251E-01 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	376.35 meters	1234.74 feet
Area Source Width:	188.18 meters	617.39 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	317261	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K -9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban

Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION ON

AERSCREEN output file:

2022.09.30_Seaton_AERSCREEENConstruction.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run

****

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR started 09/30/22 11:16:00

****

Running AERMOD

Processing Winter

Processing surface roughness sector 1

```
**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************

Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 *****************************************

  Running AERMOD

 Processing Spring

Processing surface roughness sector  1

**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   7


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30


    ********   WARNING MESSAGES   ********

               ***  NONE  ***
 ****************************************


  Running AERMOD

 Processing Summer


Processing surface roughness sector  1
```

```
**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30


    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ******************************************


  Running AERMOD

 Processing Autumn


Processing surface roughness sector  1


**************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20


    ********   WARNING MESSAGES   ********
```

```
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 09/30/22 11:16:18

REFINE       started 09/30/22 11:16:18

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
```

*** NONE ***

REFINE ended 09/30/22 11:16:21

****

AERSCREEN Finished Successfully

With no errors or warnings

Check log file for details

****

Ending date and time 09/30/22 11:16:23

```
 Concentration     Distance Elevation  Diag  Season/Month   Zo sector       Date
  H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.15072E+01         1.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15831E+01        25.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16542E+01        50.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17180E+01        75.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17759E+01       100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18287E+01       125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18781E+01       150.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19240E+01       175.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
*  0.19413E+01       200.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15140E+01       225.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12097E+01       250.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10381E+01       275.01      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.92492E+00       300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.84131E+00       325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.77011E+00       350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.70850E+00       375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
```

```
 310.0    2.0
   0.65513E+00       400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.60808E+00       425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.56637E+00       450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.52952E+00       475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.49667E+00       500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.46680E+00       525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44024E+00       550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.41598E+00       575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39405E+00       600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37400E+00       625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.35545E+00       650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33860E+00       675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32322E+00       700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30881E+00       725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29549E+00       750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28314E+00       775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27172E+00       800.00      0.00   0.0        Winter       0-360   10011001
```

```
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26101E+00       825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25096E+00       850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24161E+00       875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.23289E+00       900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.22473E+00       925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21710E+00       950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20976E+00       975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20282E+00      1000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19628E+00      1025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19012E+00      1050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18430E+00      1075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17880E+00      1100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17359E+00      1125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16866E+00      1150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16395E+00      1175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15942E+00      1200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
```

```
   0.15510E+00      1225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15100E+00      1250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.14707E+00      1275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.14330E+00      1300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13970E+00      1325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13626E+00      1350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13297E+00      1375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12982E+00      1400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12680E+00      1425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12390E+00      1450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12112E+00      1475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11843E+00      1500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11583E+00      1525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11333E+00      1550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11092E+00      1575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10861E+00      1600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10638E+00      1625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.10423E+00      1650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10215E+00      1675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10015E+00      1700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.98217E-01      1725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.96350E-01      1750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.94545E-01      1775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.92787E-01      1800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.91083E-01      1825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.89433E-01      1850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.87836E-01      1875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.86288E-01      1900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.84788E-01      1925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.83334E-01      1950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.81923E-01      1975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.80553E-01      2000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.79208E-01      2025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.77902E-01      2050.00      0.00   0.0        Winter       0-360   10011001
```

-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.76633E-01   2075.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.75401E-01   2100.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.74202E-01   2125.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.73037E-01   2150.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.71904E-01   2175.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.70801E-01   2200.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.69728E-01   2225.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.68689E-01   2250.00   0.00   5.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.67673E-01   2275.00   0.00   5.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.66681E-01   2300.00   0.00   5.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.65714E-01   2325.00   0.00   5.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.64770E-01   2350.00   0.00   5.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.63849E-01   2375.00   0.00   5.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.62951E-01   2400.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.62077E-01   2425.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0
   0.61224E-01   2450.00   0.00   0.0   Winter   0-360   10011001
-1.30 0.043 -9.000 0.020 -999.   21.   6.0 1.000   1.50   0.35   0.50   10.0
 310.0   2.0

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   0.60392E-01      2475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.59579E-01      2500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.58786E-01      2525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.58011E-01      2550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.57254E-01      2575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.56514E-01      2600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.55790E-01      2625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.55083E-01      2650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.54391E-01      2675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.53715E-01      2700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.53053E-01      2725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.52405E-01      2750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.51767E-01      2775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.51143E-01      2800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.50532E-01      2825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.49934E-01      2850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.49348E-01      2875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.48774E-01      2900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.48211E-01      2925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.47660E-01      2950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.47118E-01      2975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.46584E-01      3000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.46061E-01      3025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.45549E-01      3050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.45046E-01      3075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44553E-01      3100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44069E-01      3125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.43594E-01      3150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.43128E-01      3175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.42671E-01      3200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.42222E-01      3225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.41781E-01      3250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.41349E-01      3275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40924E-01      3300.00      0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40508E-01      3325.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40100E-01      3350.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39697E-01      3375.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39301E-01      3400.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38912E-01      3425.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38530E-01      3450.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38154E-01      3475.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38188E-01      3500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37818E-01      3525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37454E-01      3550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37096E-01      3575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36744E-01      3600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36398E-01      3625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36057E-01      3650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.35722E-01      3675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.35392E-01      3700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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   0.35068E-01      3725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34748E-01      3750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34434E-01      3775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34124E-01      3800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33819E-01      3825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33519E-01      3850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33223E-01      3875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32932E-01      3900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32646E-01      3925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32363E-01      3950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32085E-01      3975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31811E-01      4000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31541E-01      4025.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31275E-01      4050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31013E-01      4075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30754E-01      4100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30500E-01      4125.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.30249E-01      4150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30001E-01      4175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29757E-01      4200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29516E-01      4225.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29279E-01      4250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29045E-01      4275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28814E-01      4300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28587E-01      4325.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28362E-01      4350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28141E-01      4375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27922E-01      4400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27707E-01      4425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27494E-01      4450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27284E-01      4475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27077E-01      4500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26872E-01      4525.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26671E-01      4550.00      0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26471E-01      4575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26275E-01      4600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26081E-01      4625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25889E-01      4650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25700E-01      4675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25513E-01      4700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25329E-01      4725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25146E-01      4750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24966E-01      4775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24789E-01      4800.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24613E-01      4825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24440E-01      4850.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24269E-01      4875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24099E-01      4900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.23932E-01      4925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.23767E-01      4950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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   0.23604E-01      4975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.23442E-01      5000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International*

Conferences on Soils Sediment and Water. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 5-14-2021
Trial, October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty, Plaintiff vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No.: No. 18-L-6845
Rosenfeld Deposition, 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe, Plaintiff vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail, Defendants
Case No.: No. 17-cv-8517
Rosenfeld Deposition, 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al., Plaintiff vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case Number CV20127-094749
Rosenfeld Deposition: 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al *Plaintiffs*, vs. CNA Insurance Company et al.
Case Number 1:17-cv-000508
Rosenfeld Deposition: 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, *Plaintiff,* vs. Marathon Petroleum, LP, *Defendant.*
Case No.: 1716-CV10006
Rosenfeld Deposition. 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case No.: 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No.: 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case: No 1:19-cv-00315-RHW
Rosenfeld Deposition, 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 2:09-cv-232-WHA-TFM
Rosenfeld Deposition: July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil Action No. CV 2008-2076
Rosenfeld Deposition: September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 2:07CV1052
Rosenfeld Deposition: July 2009

EXHIBIT 4

Table 2: Screening Table for GHG Implementation Measures for Commercial Development and Public Facilities

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2-EE10: Exceed Energy Efficiency Standards in New Commercial Units			
EE10.A Building Envelope			
EE10.A.1 Insulation	• 2017 Title 24 Requirements (walls R-13; roof/attic R-30) • Modestly Enhanced Insulation (walls R-13, roof/attic R-38) • Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38) • Greatly Enhanced Insulation (spray foam insulated walls R-15 or higher, roof/attic R-38 or higher)	0 points 9 points 11 points 12 points	
EE10.A.2 Windows	• 2016 Title 24 Windows (0.57 U-factor, 0.4 SHGC) • Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC) • Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC) • Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	0 points 4 points 5 points 7 points	
EE10.A.3 Cool Roofs	• Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance) • Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) • Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	7 points 8 points 10 points	
EE10.A.4 Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. • Air barrier applied to exterior walls, calking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) • Blower Door HERS Verified Envelope Leakage or equivalent	7 points 6 points	
EE10.A.5 Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls. • Modest Thermal Mass (10% of floor or 10% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (20% of floor or 20% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (80% of floor or 80% of walls 12” or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials)	2 points 4 points 14 points	

Feature	Description	Assigned Point Values	Project Points
EE10.B Indoor Space Efficiencies			
EE10.B.1 Heating/ Cooling Distribution System	• Minimum Duct Insulation (R-4.2 required) • Modest Duct insulation (R-6) • Enhanced Duct Insulation (R-8) • Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	0 points 5 points 6 points 8 points	
EE10.B.2 Space Heating/ Cooling Equipment	• 2016 Title 24 Minimum HVAC Efficiency (EER 13/75% AFUE or 7.7 HSPF) • Improved Efficiency HVAC (EER 14/78% AFUE or 8 HSPF) • High Efficiency HVAC (EER 15/80% AFUE or 8.5 HSPF) • Very High Efficiency HVAC (EER 16/82% AFUE or 9 HSPF)	0 points 4 points 5 points 7 points	
EE10.B.3 Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings.	TBD	
EE10.B.4 Water Heaters	• 2016 Title 24 Minimum Efficiency (0.57 Energy Factor) • Improved Efficiency Water Heater (0.675 Energy Factor) • High Efficiency Water Heater (0.72 Energy Factor) • Very High Efficiency Water Heater (0.92 Energy Factor) • Solar Pre-heat System (0.2 Net Solar Fraction) • Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	0 points 8 points 10 points 11 points 2 points 5 points	
EE10.B.5 Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours. • All peripheral rooms within building have at least one window or skylight • All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.) • All rooms daylighted	 0 points 1 point 1 point	
EE10.B.6 Artificial Lighting	• Efficient Lights (25% of in-unit fixtures considered high efficiency. High efficiency is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40watt) • High Efficiency Lights (50% of in-unit fixtures are high efficiency) • Very High Efficiency Lights (100% of in-unit fixtures are high efficiency)	5 points 7 points 8 points	
EE10.B.7 Appliances	• Energy Star Commercial Refrigerator (new) • Energy Star Commercial Dishwasher (new) • Energy Star Commercial Clothes Washer	2 points 2 points 2 points	
EE10.C Miscellaneous Commercial Building Efficiencies			
EE10.C.1 Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	4 points	
EE10.C.2 Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on Jun 21st.	6 points	
EE10.C.3 Other	This allows innovation by the applicant to provide design features that increase the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	

Feature	Description	Assigned Point Values	Project Points
EE10.C.4 Existing Commercial Buildings Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing commercial buildings to further the point value of their project. Retrofitting existing commercial buildings within the unincorporated County is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case-by-case basis and shall have the approval of the Riverside County Planning Department. The decision to allow applicants to participate in this program will be evaluated based upon, but not limited to, the following: • Will the energy efficiency retrofit project benefit low income or disadvantaged communities? • Does the energy efficiency retrofit project provide co-benefits important to the County? • Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.	TBD	
Reduction Measure R2-CE1: Clean Energy			
CE1.B Commercial/Industrial Renewable Energy Generation			
CE1.B.1 Photovoltaic	Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 points	
CE1.B.2 Wind Turbines	Some areas of the County lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development such that the total power provided augments: • 30 percent of the power needs of the project • 40 percent of the power needs of the project • 50 percent of the power needs of the project • 60 percent of the power needs of the project • 70 percent of the power needs of the project • 80 percent of the power needs of the project • 90 percent of the power needs of the project • 100 percent of the power needs of the project	 8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 points	
CE1.B.3 Off-site Renewable Energy Project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing residential or existing commercial/industrial. These off-site renewable energy retrofit project proposals will be determined on a case-by-case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based upon the energy generated by the proposal.	TBD	

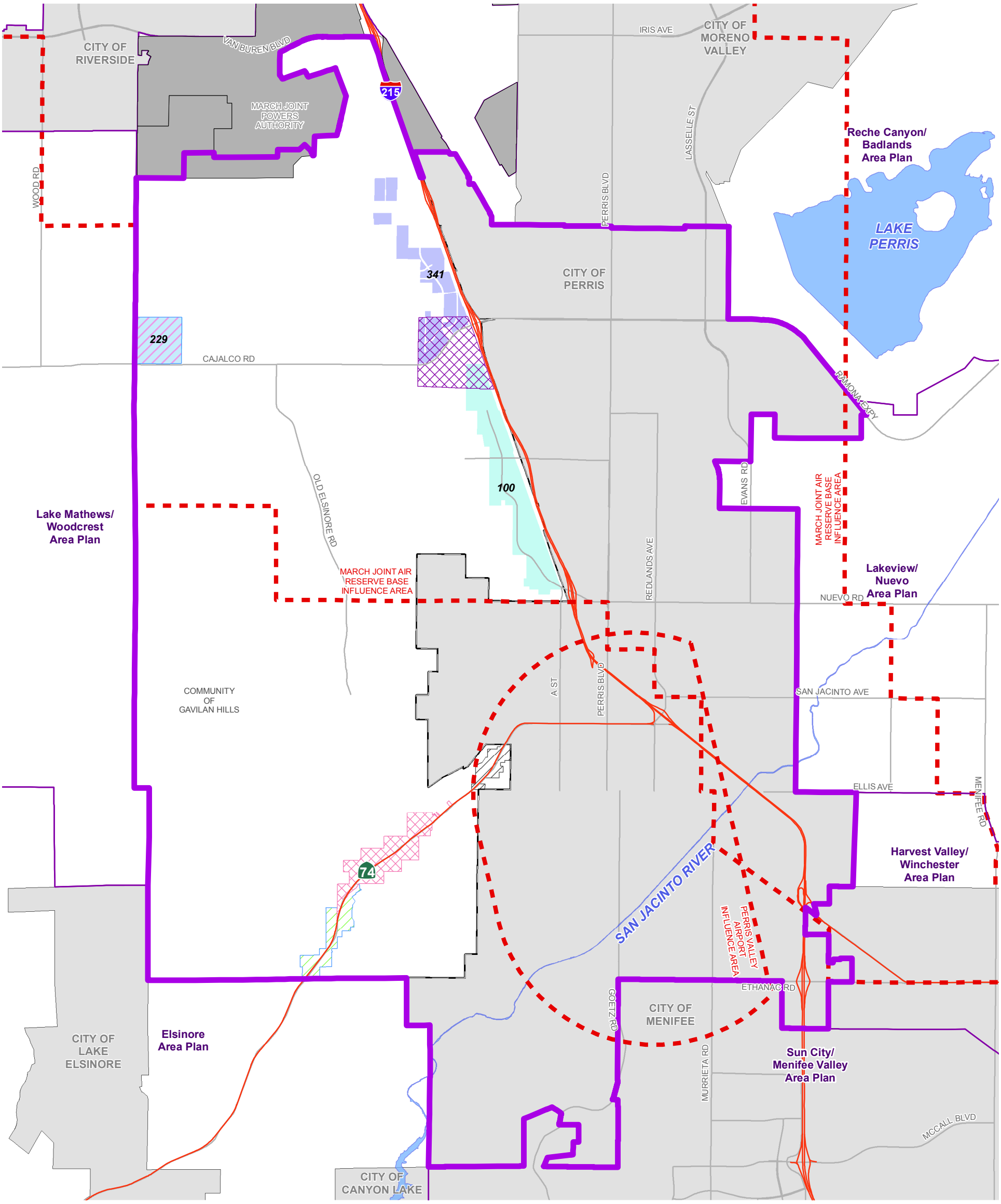
Feature	Description	Assigned Point Values	Project Points
CE1.A.4 Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	
Reduction Measure R2-W2: Exceed Water Efficiency Standards			
W2.D Irrigation and Landscaping			
W2.D.1 Water Efficient Landscaping	• Eliminate conventional turf from landscaping • Only moderate water using plants • Only low water using plants • Only California Native landscape that requires no or only supplemental irrigation	0 points 2 points 3 points 5 points	
W2.D.2 Water Efficient Irrigation Systems	• Low precipitation spray heads< .75”/hr or drip irrigation • Weather based irrigation control systems combined with drip irrigation (demonstrate 20% reduced water use)	1 point 3 points	
W2.D.3 Stormwater Reuse Systems	Innovative on-site stormwater collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	
W2.E Potable Water			
W2.E.1 Showers	Water Efficient Showerheads (2.0 gpm)	2 points	
W2.E.2 Toilets	• Water Efficient Toilets/Urinals (1.5 gpm) • Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	3 points 3 points	
W2.E.3 Faucets	Water Efficient faucets (1.28 gpm)	2 points	
W2.E.4 Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	2 points	
W2.E.5 Commercial Laundry Washers	• Water Efficient laundry (15% water savings) • High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings)	2 points 4 points	
W2.E.6 Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	
W2.F Increase Commercial/Industrial Reclaimed Water Use			
W2.F.1 Recycled Water	Graywater (purple pipe) irrigation system on site	5 points	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure R2-T3: Ride-Sharing and Bike-to-Work Programs within Businesses			
T3.A.1 Alternative Scheduling	Encouraging telecommuting and alternative work schedules reduces the number of commute trips and therefore VMT traveled by employees. Alternative work schedules could take the form of staggered starting times, flexible schedules, or compressed work weeks. • Provide flexibility in scheduling such that at least 30% of employees participate in 9/80 work week, 4-day/40-hour work week, or telecommuting 1.5 days/week.	5 points	
T3.A.2 Car/Vanpools	• Car/vanpool program • Car/vanpool program with preferred parking • Car/vanpool with guaranteed ride home program • Subsidized employee incentive car/vanpool program *Note: combine all applicable points for total value*	1 point 2 points 3 points 5 points	
T3.A.3 Employee Bicycle/ Pedestrian Programs	• Complete sidewalk to residential within ½ mile • Complete bike path to residential within 3 miles • Bike lockers and secure racks • Showers and changing facilities • Subsidized employee walk/bike program *Note: combine all applicable points for total value*	1 point 1 point 1 point 2 points 3 points	
T3.A.4 Shuttle/Transit Programs	• Local transit within ¼ mile • Light rail transit within ½ mile • Shuttle service to light rail transit station • Guaranteed ride home program • Subsidized Transit passes *Note: combine all applicable points for total value*	1 point 3 points 5 points 1 points 2 points	
T3.A.5 Commute Trip Reduction	Employer based Commute Trip Reduction (CTR). CTRs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee commutes trip reduction methods. The point value will be determined based upon a TIA that demonstrates the trip/VMT reductions. Suggested point ranges: • Incentive based CTR Programs (1–8 points) • Mandatory CTR programs (5–20 points)	TBD	
T3.A.6 Other Trip Reduction Measures	Point values for other trip or VMT reduction measures not listed above may be calculated based on a TIA and/or other traffic data supporting the trip and/or VMT reductions.	TBD	
Reduction Measure R2-T1: Alternative Transportation Options			
T1.E Mixed-Use Development			
T1.E.1 Mixed-Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed-use projects will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.	TBD	
T1.E.2 Local Retail Near Residential (Commercial only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled.	TBD	

Feature	Description	Assigned Point Values	Project Points
T1.F Preferential Parking			
T1.F.1 Parking	• Provide reserved preferential parking spaces for car-share, carpool, and ultra-low or zero emission vehicles. • Provide larger parking spaces that can accommodate vans used for ride-sharing programs and reserve them for vanpools and include adequate passenger waiting/loading areas.	1 point 1 point	
T1.G Signal Synchronization and Intelligent Traffic Systems			
T1.G.1 Signal Improvements	Techniques for improving traffic flow include: traffic signal coordination to reduce delay, incident management to increase response time to breakdowns and collisions, Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions, and speed management to reduce high free-flow speeds. • Synchronize signals along arterials used by project. • Connect signals along arterials to existing ITS.	 1 point/signal 3 points/signal	
T1.H Increase Public Transit			
T1.H.1 Public Transit	The point value of a projects ability to increase public transit use will be determined based upon a Transportation Impact Analysis (TIA) demonstrating decreased use of private vehicles and increased use of public transportation. • Increased transit accessibility (1-15 points)	TBD	
Reduction Measure R2-T2: Adopt and Implement a Bicycle Master Plan to Expand Bike Routes around the County			
T2.B.1 Sidewalks	• Provide sidewalks on one side of the street (required) • Provide sidewalks on both sides of the street • Provide pedestrian linkage between commercial and residential land uses within 1 mile	0 points 1 point 3 points	
T2.B.2 Bicycle Paths	• Provide bicycle paths within project boundaries • Provide bicycle path linkages between commercial and other land uses • Provide bicycle path linkages between commercial and transit	1 point 2 points 5 points	
Reduction Measure R2-T4: Electrify the Fleet			
T4.B.1 Electric Vehicle Recharging	• Provide circuit and capacity in garages/parking areas for installation of electric vehicle charging stations. • Install electric vehicle charging stations in garages/parking areas	2 points/area 8 points/station	
T4.B.2 Neighborhood Electric Vehicle (NEV) Infrastructure	NEVs are electric vehicles usually built to have a top speed of 25 miles per hour, and a maximum loaded weight of 3,000 pounds. • Provide NEV safe routes within the project site. • Provide NEV safe routes between the project site and other land uses.	 3 points 5 points	
Reduction Measure R2-S1: Reduce Waste to Landfills			
S1.B.1 Recycling	County initiated recycling program diverting 80% of waste requires coordination with commercial development to realize this goal. The following recycling features will help the County fulfill this goal: • Provide separated recycling bins within each commercial building/floor and provide large external recycling collection bins at central location for collection truck pick-up • Provide commercial/industrial recycling programs that fulfills an on-site goal of 80% diversion of solid waste	 2 points 5 points	

Feature	Description	Assigned Point Values	Project Points
Other GHG Reduction Feature Implementation			
O.B.1 Other GHG Emissions Reduction Features	This allows innovation by the applicant to provide commercial design features that the GHG emissions from construction and/or operation of the project not provided in the table. Note that engineering data will be required documenting the GHG reduction amount and point values given based upon emission reductions calculations using approved models, methods, and protocols.	TBD	
Total Points Earned by Commercial/Industrial Project:			

EXHIBIT 5



Data Source: Riverside County Planning

- Community Center Overlay
- Goodhope Rural Village Landuse Overlay
- Cajalco Wood Policy Area
- Highway 74 Good Hope Policy Area
- Highway 74 Perris Policy Area
- ### Specific Plans
- Airport Influence Areas
- Highways
- Area Plan Boundary
- March Joint Powers Authority
- City Boundary
- Waterbodies

Figure 4

December 8, 2015

0 1 2 Miles

RIVERSIDE COUNTY PLANNING DEPARTMENT

MEAD VALLEY AREA PLAN OVERLAYS AND POLICY AREAS

EXHIBIT 6

considerations is shown in Figure 3, Land Use Plan, which portrays the location and extent of proposed land uses. Table 2, Statistical Summary of Mead Valley Area Plan, provides a summary of the projected development capacity of the plan if all uses are built as proposed. This table includes dwelling unit, population and employment capacities.

Land Use Concept

The Mead Valley land use plan provides for a predominantly rural community character with an equestrian focus. This is reflected by the Very Low Density Residential and Low Density Residential land use designations within the Rural Community Foundation Component and Rural Residential designation within the Rural Foundation Component that dominate the planning area.

Pockets of open space, including the Motte-Rimrock Reserve and Steele Peak, are designated as Open Space Conservation Habitat to preserve their scenic and natural qualities.

A Rural Village Overlay is designated along a portion of the present alignment of State Route 74, which is located in the southern portion of the planning area. The Rural Village would serve as a focal point for the surrounding Good Hope community. This special overlay designation allows for a mixture of local serving commercial and small-scale industrial/service commercial uses, with limited residential development at a higher density than the underlying land use. The Land Use Element provides a further description of this land use designation and its intent.

> *"The extensive heritage of rural living continues to be accommodated in areas committed to that lifestyle, and its sustainability is reinforced by strong open space and urban development commitment provided for in the RCIP Vision."*
>
> *-RCIP Vision*

Mobility within the open space system is not ignored, either. Multi-use trails are conceptually located throughout the planning area, providing the framework for future trail improvements and connections. Thus, there is a strong relationship in the Area Plan between land uses and associated transportation and mobility systems, no matter what the intensity of uses may be.

Community Center Overlay

In recognition of the strategic importance of the Ramona/Cajalco interchange with Interstate 215 to the future of western Riverside County, the Mead Valley Area Plan includes a Community Center Overlay covering an extensive area centered on the first signalized intersection westerly of the freeway on Cajalco Expressway – the intersection of Cajalco with Harvill Avenue. As may be expected, the intersection has already attracted the types of commercial development that one might expect to find in the vicinity of significant freeway interchanges. Riverside County's vision for this area extends beyond roadside services. The area bordered by Interstate 215 on the east, Martin Street (and its straight-line easterly extension) on the north, Seaton Avenue on the west, and the Metropolitan Water District aqueduct on the south is envisioned as a major employment center, which may include a mixture of industrial, office, business park, and commercial uses.

For more information on Community Center types, please refer to the Land Use Policies within this area plan and the Land Use Designations section of the **General Plan Land Use Element**.

A Community Center Overlay is utilized here rather than a Community Center designation because the area is comprised of many parcels under separate ownerships. The preparation of the Specific Plan would be necessary for this area to be developed as a Community Center, and this could take time. In order to avoid delaying those landowners who are interested in development in the near future, the Community Center Overlay is utilized. As an alternative to development of a Community Center, individual landowners may choose to develop in accordance with the underlying designations. The presence of the Community Center Overlay is specifically not intended to prohibit to any extent the development of uses allowable pursuant to the underlying designations.

The Job Center envisioned here would provide region-wide services with a mixture of business park, office, and retail commercial uses. Typical uses would include, but not limited to, research and development firms, manufacturing, private and public research institutions, academic institutions, medical facilities, and support commercial uses.

The Community Center Overlay at this location does not provide for residential uses, except for existing residential uses, caretaker's residences as permitted by zoning, and new residences on existing lots that are zoned for residential use.

Table 1: Land Use Designations Summary

Foundation Component	Area Plan Land Use Designation	Building Intensity Range (du/ac or FAR) [1, 2,3,4]	Notes
Agriculture	Agriculture (AG)	10 ac min.	• Agricultural land including row crops, groves, nurseries, dairies, poultry farms, processing plants, and other related uses. • One single-family residence allowed per 10 acres except as otherwise specified by a policy or an overlay.
Rural	Rural Residential (RR)	5 ac min.	• Single-family residences with a minimum lot size of 5 acres. • Allows limited animal keeping and agricultural uses, recreational uses, compatible resource development (not including the commercial extraction of mineral resources) and associated uses and governmental uses.
	Rural Mountainous (RM)	10 ac min.	• Single-family residential uses with a minimum lot size of 10 acres. • Areas of at least 10 acres where a minimum of 70% of the area has slopes of 25% or greater. • Allows limited animal keeping, agriculture, recreational uses, compatible resource development (which may include the commercial extraction of mineral resources with approval of a SMP) and associated uses and governmental uses.
	Rural Desert (RD)	10 ac min.	• Single-family residential uses with a minimum lot size of 10 acres. • Allows limited animal keeping, agriculture, recreational, renewable energy uses including solar, geothermal and wind energy uses, as well as associated uses required to develop and operate these renewable energy sources, compatible resource development (which may include the commercial extraction of mineral resources with approval of SMP), and governmental and utility uses.
Rural Community	Estate Density Residential (RC-EDR)	2 ac min.	• Single-family detached residences on large parcels of 2 to 5 acres. • Limited agriculture, intensive equestrian and animal keeping uses are expected and encouraged.
	Very Low Density Residential (RC-VLDR)	1 ac min.	• Single-family detached residences on large parcels of 1 to 2 acres. • Limited agriculture, intensive equestrian and animal keeping uses are expected and encouraged.
	Low Density Residential (RC-LDR)	0.5 ac min.	• Single-family detached residences on large parcels of 0.5 to 1 acre. • Limited agriculture, intensive equestrian and animal keeping uses are expected and encouraged.
Open Space	Conservation (C)	N/A	• The protection of open space for natural hazard protection, cultural preservation, and natural and scenic resource preservation. Existing agriculture is permitted.
	Conservation Habitat(CH)	N/A	• Applies to public and private lands conserved and managed in accordance with adopted Multi Species Habitat and other Conservation Plans and in accordance with

Foundation Component	Area Plan Land Use Designation	Building Intensity Range (du/ac or FAR) [1, 2,3,4]	Notes
			related Riverside County policies.
	Water (W)	N/A	• Includes bodies of water and natural or artificial drainage corridors. • Extraction of mineral resources subject to SMP may be permissible provided that flooding hazards are addressed and long term habitat and riparian values are maintained.
	Recreation (R)	N/A	• Recreational uses including parks, trails, athletic fields, and golf courses. • Neighborhood parks are permitted within residential land uses.
Open Space	Rural (RUR)	20 ac min.	• One single-family residence allowed per 20 acres. • Extraction of mineral resources subject to SMP may be permissible provided that scenic resources and views are protected.
	Mineral Resources (MR)	N/A	• Mineral extraction and processing facilities. • Areas held in reserve for future mineral extraction and processing.
Community Development	Estate Density Residential (EDR)	2 ac min.	• Single-family detached residences on large parcels of 2 to 5 acres. • Limited agriculture and animal keeping is permitted, however, intensive animal keeping is discouraged.
	Very Low Density Residential (VLDR)	1 ac min.	• Single-family detached residences on large parcels of 1 to 2 acres. • Limited agriculture and animal keeping is permitted, however, intensive animal keeping is discouraged.
	Low Density Residential (LDR)	0.5 ac min.	• Single-family detached residences on large parcels of 0.5 to 1 acre. • Limited agriculture and animal keeping is permitted, however, intensive animal keeping is discouraged.
	Medium Density Residential (MDR)	2 - 5 du/ac	• Single-family detached and attached residences with a density range of 2 to 5 dwelling units per acre. • Limited agriculture and animal keeping is permitted, however, intensive animal keeping is discouraged. • Lot sizes range from 5,500 to 20,000 sq. ft., typical 7,200 sq. ft. lots allowed.
	Medium High Density Residential (MHDR)	5 - 8 du/ac	• Single-family attached and detached residences with a density range of 5 to 8 dwelling units per acre. • Lot sizes range from 4,000 to 6,500 sq. ft.
	High Density Residential (HDR)	8 - 14 du/ac	• Single-family attached and detached residences, including townhouses, stacked flats, courtyard homes, patio homes, townhouses, and zero lot line homes .
	Very High Density Residential (VHDR)	14 - 20 du/ac	• Single-family attached residences and multi-family dwellings.
Community Development	Highest Density Residential (HHDR)	20+ du/ac	• Multi-family dwellings, includes apartments and condominium. • Multi-storied (3+) structures are allowed.
	Commercial Retail (CR)	0.20 - 0.35 FAR	• Local and regional serving retail and service uses. The amount of land designated for Commercial Retail exceeds that amount anticipated to be necessary to serve Riverside County's population at build out. Once build out of Commercial Retail reaches the 40% level within any Area Plan, additional studies will be required before CR development beyond the 40 % will be permitted.
	Commercial Tourist (CT)	0.20 - 0.35 FAR	• Tourist related commercial including hotels, golf courses, and recreation/amusement activities.
	Commercial Office (CO)	0.35 - 1.0 FAR	• Variety of office related uses including financial, legal, insurance and other office services.
	Light Industrial (LI)	0.25 - 0.60 FAR	• Industrial and related uses including warehousing/distribution, assembly and light manufacturing, repair facilities, and supporting retail uses.
	Heavy Industrial (HI)	0.15 - 0.50 FAR	• More intense industrial activities that generate greater effects such as excessive noise, dust, and other nuisances.
	Business Park (BP)	0.25 - 0.60 FAR	• Employee intensive uses, including research and development, technology centers, corporate offices, clean industry and supporting retail uses.
	Public Facilities (PF)	$\leq$ 0.60 FAR	• Civic uses such as County of Riverside administrative buildings and schools.

Foundation Component	Area Plan Land Use Designation	Building Intensity Range (du/ac or FAR) [1, 2,3,4]	Notes
	Community Center (CC)	5 - 40 du/ac 0.10 - 0.3 FAR	• Includes combination of small-lot single family residences, multi-family residences, commercial retail, office, business park uses, civic uses, transit facilities, and recreational open space within a unified planned development area. This also includes Community Centers in adopted specific plans.
Community Development	Mixed-Use Area		• This designation is applied to areas outside of Community Centers. The intent of the designation is not to identify a particular mixture or intensity of land uses, but to designate areas where a mixture of residential, commercial, office, entertainment, educational, and/or recreational uses, or other uses is planned.

Overlays and Policy Areas

Overlays and Policy Areas are not considered a Foundation Component. Overlays and Policy Areas address local conditions and can be applied in any Foundation Component. The specific details and development characteristics of each Policy Area and Overlay are contained in the appropriate Area Plan.

Community Development Overlay (CDO)	• Allows Community Development land use designations to be applied through General Plan Amendments within specified areas within Rural, Rural Community, Agriculture, or Open Space Foundation Component areas. Specific policies related to each Community Development Overlay are contained in the appropriate Area Plan.
Community Center Overlay (CCO)	• Allows for either a Community Center or the underlying designated land use to be developed.
Rural Village Overlay (RVO) and Rural Village Overlay Study Area (RVOSA)	• The Rural Village Overlay allows a concentration of residential and local-serving commercial uses within areas of rural character. • The Rural Village Overlay allows the uses and maximum densities/intensities of the Medium Density Residential and Medium High Density Residential and Commercial Retail land use designations. • In some rural village areas, identified as Rural Village Overlay Study Areas, the final boundaries will be determined at a later date during the consistency zoning program. (The consistency zoning program is the process of bringing current zoning into consistency with the adopted general plan.)
Historic District Overlay (HDO)	• This overlay allows for specific protections, land uses, the application of the Historic Building Code, and consideration for contributing elements to the District.
Specific Community Development Designation Overlay	• Permits flexibility in land uses designations to account for local conditions. Consult the applicable Area Plan text for details.
Policy Areas	• Policy Areas are specific geographic districts that contain unique characteristics that merit detailed attention and focused policies. These policies may impact the underlying land use designations. At the Area Plan level, Policy Areas accommodate several locally specific designations, such as the Cherry Valley Policy Area (The Pass Area Plan), or the Highway 79 Policy Area (Sun City/Menifee Valley Area Plan). Consult the applicable Area Plan text for details.

NOTES:

1 FAR = Floor Area Ratio, which is the measurement of the amount of non-residential building square footage in relation to the size of the lot. Du/ac = dwelling units per acre, which is the measurement of the amount of residential units in a given acre.

2 The building intensity range noted is exclusive, that is the range noted provides a minimum and maximum building intensity.

3 Clustering is encouraged in all residential designations. The allowable density of a particular land use designation may be clustered in one portion of the site in smaller lots, as long as the ratio of dwelling units/area remains within the allowable density range associated with the designation. The rest of the site would then be preserved as open space or a use compatible with open space (e.g., agriculture, pasture or wildlife habitat). Within the Rural Foundation Component and Rural Designation of the Open Space Foundation Component, the allowable density may be clustered as long as no lot is smaller than 0.5-acre. This 0.5-acre minimum lot size also applies to the Rural Community Development Foundation Component. However, for sites adjacent to Community Development Foundation Component areas, 10,000 square foot minimum lots are allowed. The clustered areas would be a mix of 10,000-square-foot and 0.5-acre lots. In such cases, larger lots or open space would be required near the project boundary with Rural Community and Rural Foundation Component areas.

4 The minimum lot size required for each permanent structure with plumbing fixtures utilizing an onsite wastewater treatment system to handle its wastewater is ½ acre per structure.