APPLICATIONS:

ORIGINAL

APPEAL APPLICATION

This application is to be used for any appeals authorized by the Los Angeles Municipal Code (LAMC) for discretionary actions administered by the Department of City Planning.

1. APPELLANT BODY/CASE INFORMATION

Appellant Body:

☐ Area Planning Commission ☐ City Planning Commission ☑ City Council ☐ Director of Planning

Regarding Case Number: NV-2017-1075-MND

Project Address: 15116-15216 S. VERMONT AVENUE; 747-761 W. REDONDO BEACH BLVD.

Final Date to Appeal: 04/02/2018

Type of Appeal:
- ☐ Appeal by Applicant/Owner
- ☑ Appeal by a person, other than the Applicant/Owner, claiming to be aggrieved
- ☐ Appeal from a determination made by the Department of Building and Safety

2. APPELLANT INFORMATION

Appellant's name (print): JEAN TALARO

Company: RESIDENT

Mailing Address: 15411 S. MENLO AVE.

City: GARDENA State: CA Zip: 90247

Telephone: (310) 329-5719 E-mail: jtalaro@pacbell.net

- Is the appeal being filed on your behalf or on behalf of another party, organization or company?

  ☑ Self ☐ Other:

- Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

3. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): GIDEON KRACOV

Company: LAW OFFICE OF GIDEON KRACOV

Mailing Address: 801 S. GRAND. AVE., 11 FLOOR

City: LOS ANGELES State: CA Zip: 90017

Telephone: (213) 623-7755 E-mail: gk@gideonlaw.net (cc: jordan@gideonlaw.net)

4. JUSTIFICATION/REASON FOR APPEAL

Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

Are specific conditions of approval being appealed? ☐ Yes ☑ No

If Yes, list the condition number(s) here: _____

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

- The reason for the appeal
- Specifically the points at issue
- How you are aggrieved by the decision
- Why you believe the decision-maker erred or abused their discretion

5. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: Juan Solano Date: March 22, 2018

6. FILING REQUIREMENTS/ADDITIONAL INFORMATION

- Eight (8) sets of the following documents are required for <u>each</u> appeal filed (1 original and 7 duplicates):
  - Appeal Application (form CP-7769)
  - Justification/Reason for Appeal
  - Copies of Original Determination Letter
- A Filing Fee must be paid at the time of filing the appeal per LAMC Section 19.01 B.
  - Original applicants must provide a copy of the original application receipt(s) (required to calculate their 85% appeal filing fee).
- All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of the receipt.
- Appellants filing an appeal from a determination made by the Department of Building and Safety per LAMC 12.26 K are considered Original Applicants and must provide noticing per LAMC 12.26 K.7, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt.
- A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may <u>not</u> file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an <u>individual on behalf of self</u>.
- Appeals of Density Bonus cases can only be filed by adjacent owners or tenants (must have documentation).
- Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the <u>date of the written determination</u> of said Commission.
- A CEQA document can only be appealed if a non-elected decision-making body (ZA, APC, CPC, etc.) makes a determination for a project that is not further appealable. [CA Public Resources Code ' 21151 (c)].

This Section for City Planning Staff Use Only		
Base Fee: $89.00	Reviewed & Accepted by (DSC Planner): Ranalynn Dominguez	Date: 3/30/2018
Receipt No:	Deemed Complete by (Project Planner):	Date:
☒ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

APPLICATIONS:

ORIGINAL

APPEAL APPLICATION

This application is to be used for any appeals authorized by the Los Angeles Municipal Code (LAMC) for discretionary actions administered by the Department of City Planning.

1. APPELLANT BODY/CASE INFORMATION

Appellant Body:

☐ Area Planning Commission ☐ City Planning Commission ☑ City Council ☐ Director of Planning

Regarding Case Number: CPC-2017-1014-CU-ZAA-SPR;

Project Address: 15116-15216 S. VERMONT AVENUE; 747-761 W. REDONDO BEACH BLVD.

Final Date to Appeal: 04/02/2018

Type of Appeal:
- ☐ Appeal by Applicant/Owner
- ☑ Appeal by a person, other than the Applicant/Owner, claiming to be aggrieved
- ☐ Appeal from a determination made by the Department of Building and Safety

2. APPELLANT INFORMATION

Appellant's name (print): JEAN TALARO

Company: RESIDENT

Mailing Address: 15411 S. MENLO AVE.

City: GARDENA State: CA Zip: 90247

Telephone: (310) 329-5719 E-mail: jtalaro@pacbell.net

- Is the appeal being filed on your behalf or on behalf of another party, organization or company?

  ☑ Self ☐ Other:

- Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

3. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): GIDEON KRACOV

Company: LAW OFFICE OF GIDEON KRACOV

Mailing Address: 801 S. GRAND. AVE., 11 FLOOR

City: LOS ANGELES State: CA Zip: 90017

Telephone: (213) 623-7755 E-mail: gk@gideonlaw.net (cc: jordan@gideonlaw.net)

4. JUSTIFICATION/REASON FOR APPEAL

Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

Are specific conditions of approval being appealed? ☐ Yes ☑ No

If Yes, list the condition number(s) here: _____

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

- The reason for the appeal
- How you are aggrieved by the decision
- Specifically the points at issue
- Why you believe the decision-maker erred or abused their discretion

5. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: Juan Solano Date: March 23, 2018

6. FILING REQUIREMENTS/ADDITIONAL INFORMATION

- Eight (8) sets of the following documents are required for <u>each</u> appeal filed (1 original and 7 duplicates):
  - Appeal Application (form CP-7769)
  - Justification/Reason for Appeal
  - Copies of Original Determination Letter
- A Filing Fee must be paid at the time of filing the appeal per LAMC Section 19.01 B.
  - Original applicants must provide a copy of the original application receipt(s) (required to calculate their 85% appeal filing fee).
- All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of the receipt.
- Appellants filing an appeal from a determination made by the Department of Building and Safety per LAMC 12.26 K are considered Original Applicants and must provide noticing per LAMC 12.26 K.7, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt.
- A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may <u>not</u> file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an <u>individual on behalf of self</u>.
- Appeals of Density Bonus cases can only be filed by adjacent owners or tenants (must have documentation).
- Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the <u>date of the written determination</u> of said Commission.
- A CEQA document can only be appealed if a non-elected decision-making body (ZA, APC, CPC, etc.) makes a determination for a project that is not further appealable. [CA Public Resources Code ' 21151 (c)].

This Section for City Planning Staff Use Only		
Base Fee: $89.00	Reviewed & Accepted by (DSC Planner): Ronalynn Dominguez	Date: 3/30/2018
Receipt No:	Deemed Complete by (Project Planner):	Date:
☒ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

APPLICATIONS:

APPEAL APPLICATION

ORIGINAL

This application is to be used for any appeals authorized by the Los Angeles Municipal Code (LAMC) for discretionary actions administered by the Department of City Planning.

1. APPELLANT BODY/CASE INFORMATION

Appellant Body:

☐ Area Planning Commission ☐ City Planning Commission ☑ City Council ☐ Director of Planning

Regarding Case Number: ENV-2017-1075-MND

Project Address: 15116-15216 S. VERMONT AVENUE; 747-761 W. REDONDO BEACH BLVD.

Final Date to Appeal: 04/02/2018

Type of Appeal:
☐ Appeal by Applicant/Owner
☑ Appeal by a person, other than the Applicant/Owner, claiming to be aggrieved
☐ Appeal from a determination made by the Department of Building and Safety

2. APPELLANT INFORMATION

Appellant's name (print): ROSALIE PRESTON

Company: RESIDENT

Mailing Address: 15913 S. MENLO AVE.

City: GARDENA State: CA Zip: 90247

Telephone: (310) 538-2485 E-mail: rosalieannp@hotmail.com

- Is the appeal being filed on your behalf or on behalf of another party, organization or company?

  ☑ Self ☐ Other:

- Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

3. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): GIDEON KRACOV

Company: LAW OFFICE OF GIDEON KRACOV

Mailing Address: 801 S. GRAND. AVE., 11 FLOOR

City: LOS ANGELES State: CA Zip: 90017

Telephone: (213) 623-7755 E-mail: gk@gideonlaw.net (cc: jordan@gideonlaw.net)

4. JUSTIFICATION/REASON FOR APPEAL

Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

Are specific conditions of approval being appealed? ☐ Yes ☑ No

If Yes, list the condition number(s) here: _____

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

- The reason for the appeal
- Specifically the points at issue
- How you are aggrieved by the decision
- Why you believe the decision-maker erred or abused their discretion

5. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: Rochie A. Preston Date: March 22, 2018

6. FILING REQUIREMENTS/ADDITIONAL INFORMATION

- Eight (8) sets of the following documents are required for <u>each</u> appeal filed (1 original and 7 duplicates):
  - Appeal Application (form CP-7769)
  - Justification/Reason for Appeal
  - Copies of Original Determination Letter
- A Filing Fee must be paid at the time of filing the appeal per LAMC Section 19.01 B.
  - Original applicants must provide a copy of the original application receipt(s) (required to calculate their 85% appeal filing fee).
- All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of the receipt.
- Appellants filing an appeal from a determination made by the Department of Building and Safety per LAMC 12.26 K are considered Original Applicants and must provide noticing per LAMC 12.26 K.7, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt.
- A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may <u>not</u> file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an <u>individual on behalf of self</u>.
- Appeals of Density Bonus cases can only be filed by adjacent owners or tenants (must have documentation).
- Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the <u>date of the written determination</u> of said Commission.
- A CEQA document can only be appealed if a non-elected decision-making body (ZA, APC, CPC, etc.) makes a determination for a project that is not further appealable. [CA Public Resources Code ' 21151 (c)].

This Section for City Planning Staff Use Only		
Base Fee: $89.00	Reviewed & Accepted by (DSC Planner): Donalynn Dominguez	Date: 3/30/2018
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

APPLICATIONS:

ORIGINAL

APPEAL APPLICATION

This application is to be used for any appeals authorized by the Los Angeles Municipal Code (LAMC) for discretionary actions administered by the Department of City Planning.

1. APPELLANT BODY/CASE INFORMATION

Appellant Body:

☐ Area Planning Commission ☐ City Planning Commission ☑ City Council ☐ Director of Planning

Regarding Case Number: CPC-2017-1014-CU-ZAA-SPR;

Project Address: 15116-15216 S. VERMONT AVENUE; 747-761 W. REDONDO BEACH BLVD.

Final Date to Appeal: 04/02/2018

Type of Appeal:
- ☐ Appeal by Applicant/Owner
- ☑ Appeal by a person, other than the Applicant/Owner, claiming to be aggrieved
- ☐ Appeal from a determination made by the Department of Building and Safety

2. APPELLANT INFORMATION

Appellant's name (print): ROSALIE PRESTON

Company: RESIDENT

Mailing Address: 15913 S. MENLO AVE.

City: GARDENA State: CA Zip: 90247

Telephone: (310) 538-2485 E-mail: rosalieannp@hotmail.com

- Is the appeal being filed on your behalf or on behalf of another party, organization or company?

  ☑ Self ☐ Other:

- Is the appeal being filed to support the original applicant's position? ☐ Yes ☑ No

3. REPRESENTATIVE/AGENT INFORMATION

Representative/Agent name (if applicable): GIDEON KRACOV

Company: LAW OFFICE OF GIDEON KRACOV

Mailing Address: 801 S. GRAND. AVE., 11 FLOOR

City: LOS ANGELES State: CA Zip: 90017

Telephone: (213) 623-7755 E-mail: gk@gideonlaw.net (cc: jordan@gideonlaw.net)

4. JUSTIFICATION/REASON FOR APPEAL

Is the entire decision, or only parts of it being appealed? ☑ Entire ☐ Part

Are specific conditions of approval being appealed? ☐ Yes ☑ No

If Yes, list the condition number(s) here: _____

Attach a separate sheet providing your reasons for the appeal. Your reason must state:

- The reason for the appeal
- Specifically the points at issue
- How you are aggrieved by the decision
- Why you believe the decision-maker erred or abused their discretion

5. APPLICANT'S AFFIDAVIT

I certify that the statements contained in this application are complete and true:

Appellant Signature: Rochie A. Preston Date: March 22, 2018

6. FILING REQUIREMENTS/ADDITIONAL INFORMATION

- Eight (8) sets of the following documents are required for each appeal filed (1 original and 7 duplicates):
  - Appeal Application (form CP-7769)
  - Justification/Reason for Appeal
  - Copies of Original Determination Letter
- A Filing Fee must be paid at the time of filing the appeal per LAMC Section 19.01 B.
  - Original applicants must provide a copy of the original application receipt(s) (required to calculate their 85% appeal filing fee).
- All appeals require noticing per the applicable LAMC section(s). Original Applicants must provide noticing per the LAMC, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of the receipt.
- Appellants filing an appeal from a determination made by the Department of Building and Safety per LAMC 12.26 K are considered Original Applicants and must provide noticing per LAMC 12.26 K.7, pay mailing fees to City Planning's mailing contractor (BTC) and submit a copy of receipt.
- A Certified Neighborhood Council (CNC) or a person identified as a member of a CNC or as representing the CNC may not file an appeal on behalf of the Neighborhood Council; persons affiliated with a CNC may only file as an individual on behalf of self.
- Appeals of Density Bonus cases can only be filed by adjacent owners or tenants (must have documentation).
- Appeals to the City Council from a determination on a Tentative Tract (TT or VTT) by the Area or City Planning Commission must be filed within 10 days of the date of the written determination of said Commission.
- A CEQA document can only be appealed if a non-elected decision-making body (ZA, APC, CPC, etc.) makes a determination for a project that is not further appealable. [CA Public Resources Code ' 21151 (c)].

This Section for City Planning Staff Use Only		
Base Fee: $89.00	Reviewed & Accepted by (DSC Planner): Danalynn Dominguez	Date: 3/30/2018
Receipt No:	Deemed Complete by (Project Planner):	Date:
☐ Determination authority notified	☐ Original receipt and BTC receipt (if original applicant)	

Appeal Justification

Incorporated by this reference in their entirety and attached hereto collectively as Exhibit A is the March 16, 2018 Project Letter of Determination, and as Exhibit B are the March 2_, 2018 letter from experts SWAPE, February 15, 2018 Harbor Gateway North Neighborhood Council letter, December 18, 2017 City of Gardena letter, December 18, 2017 Harbor Redondo, LLC letter, December 19, 2017 South Coast AQMD letter, and January 23, 2018 Cal. Air Resources Board letter.

1. A Full EIR is Needed

This warehouse Project is way too big with far too many impacts for a MND. It is at least 341,000 sq. ft. with 36 truck loading positions. It will attract potentially as many as 224,840 truck trips per year. Operations are to be 24 hours a day. Residences are less than 150 feet away. A zoning adjustment is needed to construct the building 50 feet high – 20% higher than allowed. *With all due respect – the need for an EIR here should not even be a close call.*

An EIR must be prepared if "substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts." *Communities for a Better Env't v. SCAQMD* (2010) 48 Cal.4th 310, 319-320. Substantial evidence includes expert opinions supported by facts. *See* PUB. RES. CODE §§ 21080(e), 21082.2(c) and 14 Cal. Code Regs. ("GUIDELINES") §§ 15064(f)(5), 15384. This fair argument is a "low threshold" test, reflecting a preference for resolving doubts in favor of an EIR. *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84; PUB. RES. CODE §§ 21100, 21151; GUIDELINES §§ 15063(b)(1), 15384(a). Whether a fair argument exists is a question on which the court does not defer to the agency. *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 930. "It is the function of an EIR, not a negative declaration, to resolve conflicting claims, based on substantial evidence, as to the environmental effects of a project." *Id.* at 935. The standard is whether an argument is fairly made – regardless of other evidence in the record. *Parker Shattuck v. Berkeley City Council* (2013) 222 Cal.App.4th 768, 776. Here, the experts' views raise factual conflicts requiring resolution through an EIR.

As set forth in all the attachments, ***including extensive expert testimony***, an EIR is needed to address a "fair argument" of significant Project impacts in areas including but not limited to:

Aesthetics,

Air Quality,

Hazards and Hazardous Substances,

Greenhouse Gas,

Land Use Inconsistency,

Noise; and

Traffic and Transportation.

Furthermore, the Project lacks all required mitigation measures, and appropriate performance standards for the paltry and often illusory mitigation measures that are proposed.

2. ***Required Land Use Findings Cannot Be Made***

This Project is discretionary, not by right. Given all the unmitigated environmental impacts and the inadequate study, and the mischaracterizations of the site location and characteristics, the required land use findings cannot be made and are not supported by substantial evidence. While planning agencies enjoy some discretion interpreting their zoning law – "deference has limits" – and courts are not bound by unreasonable interpretations. *Orange Citizens for Parks & Recreation v. Superior Court* (2016) 2 Cal.5th 141, 156-57 (rejecting agency's attempts to "downplay the facial inconsistency" between a project and general plan designation). It is well established that mandamus can lie to attack the act of an official in violation of a local zoning ordinance. Judicial review for an abuse of discretion under Code of Civ. Proc. § 1094.5 must not be perfunctory or mechanically superficial. *Stolman v. City of Los Angeles* (2003) 114 Cal.App.4th 916, 923

Here, the Project does not qualify for a CUP, ZAA and Site Plan Review approval because the findings lack substantial evidence including those made under: LAMC Section 12.24 U.14 and 12.24 W.27 (Conditional Use Permit for a development which creates 250,000 square feet or more of warehouse floor area and 24-hour operation in lieu of the otherwise permitted 7:00 a.m. to 11:00 p.m. requiring that "the project's location, size, height, operations and other significant features will be compatible with and will not adversely affect or further degrade adjacent properties, the surrounding neighborhood, or the public health, welfare, and safety and that "the project substantially conforms with the purpose, intent and provisions of the General Plan, the applicable community plan, and any applicable specific plan" and "the project provides for an arrangement of uses, buildings, structures, open spaces and other improvements that are compatible with the scale and character of the adjacent properties and surrounding neighborhood"); LAMC Section 12.28 A (Zoning Administrator's Adjustment from LAMC Section 12.21.1 A to allow a maximum building height of 54 feet in lieu of the otherwise permitted 45 feet requiring "while site characteristics or existing improvements make strict adherence to the zoning regulations impractical or infeasible, the project nonetheless conforms with the intent of those regulations"; "in light of the project as a whole, including any mitigation measures imposed, the project's location, size, height, operations and other significant features will be compatible with and will not adversely affect or further degrade adjacent properties, the surrounding neighborhood, or the public health, welfare, and safety" and "the project is in substantial conformance with the purpose, intent and provisions of the General Plan, the applicable community

plan and any applicable specific plan"); and pursuant to LAMC Section 16.05 (a Site Plan Review for a development requiring "the project is in substantial conformance with the purposes, intent and provisions of the General Plan, applicable community plan, and any applicable specific plan "project provides for an arrangement of uses, buildings, structures, open spaces and other improvements that are compatible with the scale and character of the adjacent properties and surrounding neighborhood" and "the project consists of an arrangement of buildings and structures (including height, bulk and setbacks), off-street parking facilities, loading areas, lighting, landscaping, trash collection, and other such pertinent improvements, that are or will be compatible with existing and future development on adjacent properties and neighboring properties.").

The City has abused its discretion is granting these discretionary approvals. These findings cannot be made. Please grant the appeal.

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

March 29, 2018

Gideon Kracov
Attorney at Law
801 S. Grand Ave., 11th Fl.
Los Angeles, CA 90017

Subject: **Comments on the 15116-15216 South Vermont Ave & 747-761 W. Redondo Beach Blvd; Harbor Gateway (ENV-2017-1015) Project**

Dear Mr. Kracov,

We have reviewed the February 2018 Initial Study/Mitigated Negative Declaration (IS/MND) for the 15116-15216 South Vermont Ave & 747-761 W. Redondo Beach Blvd; Harbor Gateway (ENV-2017-1015) Project ("Project") located in the City of Los Angeles ("City"). The proposed project is the construction, use and maintenance of a new, one-story (with a 25,000 square-foot mezzanine), 54-foot tall, 341,402 square-foot warehouse/manufacturing/high-cube warehouse/distribution center with a total of 233 automobile parking spaces and 32 bicycle parking spaces. The project also includes 36 dock high truck loading positions and up to 71 parking stalls for truck trailers.

Our review concludes that the IS/MND fails to adequately evaluate the Project's Hazards and Hazardous Waste, Air Quality, and Greenhouse Gas (GHG) impacts. As a result, emissions and health impacts associated with the construction and operation of the proposed Project are underestimated and inadequately addressed. A Draft Environmental Impact Report (DEIR) should be prepared to adequately assess and mitigate the potential hazards, air quality, health risk, and GHG impacts that the Project may have on the surrounding environment. This Project is simply too large with too many impacts to be adequately assessed and mitigated in an IS/MND.

Hazards and Hazardous Waste

According to a 2016 Phase I Environmental Site Assessment[1], the Project site has an extensive history of industrial uses that spans more than 100 years, including use as a:

- Railroad substation and switch gallery;

[1] Phase I Environmental Site Assessment Report for the Walmart Chapman site located at 15134 South Vermont Avenue and 747, 831, and 861 West Redondo Beach Boulevard, Los Angeles, California, October 2016, SCS Engineers

- Nursery;
- Furniture manufacturing (Virco Company);
- Electrical cord manufacturing (Electricord Company, which remains under active oversight by the Regional Water Quality Control Board[2]); and
- Gas station (ARCO).

The IS/MND defers mitigation to address contaminants known to be associated with former industrial uses. More analysis and disclosure is needed in a DEIR, such as a Phase II environmental site assessment. A DEIR should be prepared to include the results of further assessment of contaminant releases under a signed voluntary cleanup agreement with the California Department of Toxics Substances Control to ensure protection of construction worker safety and the health of nearby residents.

Releases of chemicals from these activities to the subsurface are known to have occurred and include:

- Tetrachloroethylene (PCE), a likely carcinogen according to the US EPA[3]
- Trichloroethene (TCE), a known carcinogen according to the US EPA[4]
- Total petroleum hydrocarbons; and
- Heavy metals.

The Phase I found the following conditions to represent Recognized Environmental Conditions (RECs):

Virco site:

- A former incinerator and oil staining;
- Elevated concentrations of TPH (up to 11,000 mg/kg); and
- The absence of complete information about the removal of all USTs at the former Virco side of the Property.

The Phase I describes the Virco site as follows:

> "heavy oil staining across the southwestern and western sides of the former Virco building slab, in areas that historically housed Virco tube mills and machine/maintenance shops. In some areas, it appeared that oil was weeping upwards through the slab. SCS observed evidence of past borings and abandoned monitoring wells at several locations across the former Virco side of the Property" (p. iii) and;
>
> "A 1950 building permit issued to Virco indicated that an industrial/domestic incinerator was installed outside the southeastern corner of the original Virco building footprint" (p. iv).

Electricord site:

- Oil staining;
- Volatile organic compound (VOC) groundwater contamination to include PCE and TCE;
- Soil sampling results that indicated the presence of, cis-1,2-dichloroethene and other VOCs; and

[2] http://geotracker.waterboards.ca.gov/profile_report?global_id=SL0603729001
[3] https://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=264&tid=48
[4] https://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=172&tid=30

- Soil sampling that indicated the presence of copper, ethylbenzene, and xylenes.

The Phase I also identified the following to be a data gap:

- One UST was abandoned in place.
- Indications that the status of at least two USTs is unknown.

The Phase I concludes:

> In the opinion of the Environmental Professional, this assessment has revealed evidence of conditions indicative of recognized environmental conditions in connection with the Property, as discussed above. In light of the information discussed above, additional investigation is recommended.

Despite the heavy industrial use of the site and the documentation of chemical release, the IS/MND defers mitigation, to include investigation as recommended in the Phase I, until prior to the issuance of grading permits. The proposed mitigation measures lack any specificity about how they will be protective of human health, simply stating:

> Regulatory Compliance Measure RC-HAZ-4 Listed Sites (Removal of Underground Storage Tanks): Underground Storage Tanks shall be decommissioned or removed as determined by the Los Angeles City Fire Department Underground Storage Tank Division. If any contamination is found, further remediation measures shall be developed with the assistance of the Los Angeles City Fire Department and other appropriate State agencies. Prior to issuance of a use of land or building permit, a letter certifying that remediation is complete from the appropriate agency (Department of Toxic Substance Control or the Regional Water Quality Control Board) shall be submitted to the decision maker.
>
> Regulatory Compliance Measure RC-HAZ-5 (Hazardous Materials Site): Prior to the issuance of any use of land, grading, or building permit, the applicant shall obtain a sign-off from the Fire Department indicating that all on-site hazardous materials, including contamination of the soil and groundwater, have been suitably remediated, or that the proposed project will not impede proposed or on-going remediation measures.

Regulatory approval of cleanup should not be assumed at a site that is known to be contaminated with cancer-causing compounds and where there is uncertainty about the extent of remaining contamination. Instead, the regulatory process should be allowed to proceed to completion prior to any approval for the proposed Project. A Phase II should be performed. The data gaps are too large and invalidate the IS/MND's as an adequate information document. Only after investigations and cleanup are complete and documented in a DEIR, can impacts be disclosed and mitigated. Investigations and cleanup should be conducted under a signed voluntary cleanup agreement with the California Department of Toxics Substances Control.

Additionally, impacts from cleanup activities, including air quality impacts from excavation, truck trips from soil disposal and dust generation, for example, are not contemplated in the IS/MND. A DEIR is necessary to evaluate and disclose these impacts and to mitigate them for the protection of worker safety and the health of nearby residents who would be potentially exposed to contaminated dust.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The IS/MND relies on emissions calculated from the California Emissions Estimator Model Version CalEEMod.2016.3.1 ("CalEEMod").[5] 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 Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[6] 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, which can be found in Exhibit C of the IS/MND, disclose to the reader what parameters were utilized in calculating the Project's air pollutant emissions, and make known which default values were changed as well as provide a justification for the values selected.[7]

When we reviewed the Project's CalEEMod output files, we found that several of the values inputted into the model were not consistent with information disclosed in the IS/MND. When the Project's emissions are modeled using correct input parameters, we found that the Project will have a significant impact on regional air quality. A project-specific DEIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that the construction and operation of the Project will have.

Incorrect Usage of Fontana Truck Trip Study for Fleet Mix and Use of Underestimated Truck Trip Rate

The IS/MND relies upon an artificially low truck trip rate and truck fleet mix percentage to model the Project's operational emissions, and as a result the Project's mobile-source emissions are greatly underestimated.

According to the IS/MND and associated exhibits, the Project relies on the August 2003 City of Fontana *Truck Trip Generation Study* ("Fontana Study")[8] and the 2012 Institute of Transportation Engineers 9th Edition *Trip Generation Manual* ("Trip Generation Manual") to determine the number of passenger car and heavy-duty truck trips the Project will generate during operation (Exhibit C, p. 70; Exhibit E, p. 24). However, the South Coast Air Quality Management District's (SCAQMD) staff has determined that the

[5] CalEEMod website, *available at*: http://www.caleemod.com/
[6] CalEEMod User Guide, pp. 2, 9, *available at:* http://www.caleemod.com/
[7] CalEEMod User Guide, pp. 7, 13, *available at:* http://www.caleemod.com/ (A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.)
[8] "Truck Trip Generation Study." City of Fontana, County of San Bernardino, State of California, August 2003, *available at*:
http://www.tampabayfreight.com/pdfs/Freight%20Library/Fontana%20Truck%20Generation%20Study.pdf

Fontana Study has limited applicability to warehouse projects. As a result, the Fontana Study should not be relied upon to determine the Project's mobile-source emissions.

As is disclosed in the MND and associated appendices, the proposed industrial building will consist of high-cube distribution warehouses (pp. 1). According to the SCAQMD staff, the "Fontana Study, by itself, is not characteristic of high cube warehouses."[9] Furthermore, SCAQMD staff finds the following additional issues with the Fontana Study: [10]

- The overall trip rate is based on only four warehouses total, which includes two warehouses with zeros data points. In other words, the results of the Fontana Study were based on only two data points. As is disclosed in the Fontana Study, the daily trip rate was only based on data from a Target warehouse and a TAB warehouse.[11]
- The Fontana Study does not report any 24-hour daily truck trip rates. According to the Fontana Study, "Trip generation statistics for daily truck trips were not calculated because vehicle classifications counts could not be obtained from the driveway 24-hour counts."[12]
- The trip rates using the Fontana study are calculated based on a 20 percent truck fleet mix, which is inconsistent with SCAQMD's recommendation that agencies use a truck fleet mix of 40%.

Due to these reasons, SCAQMD recommends that Project Applicants either "use ITE default values until Governing Board action" (Option 1) or refer to the flow chart below (Option 2). [13]

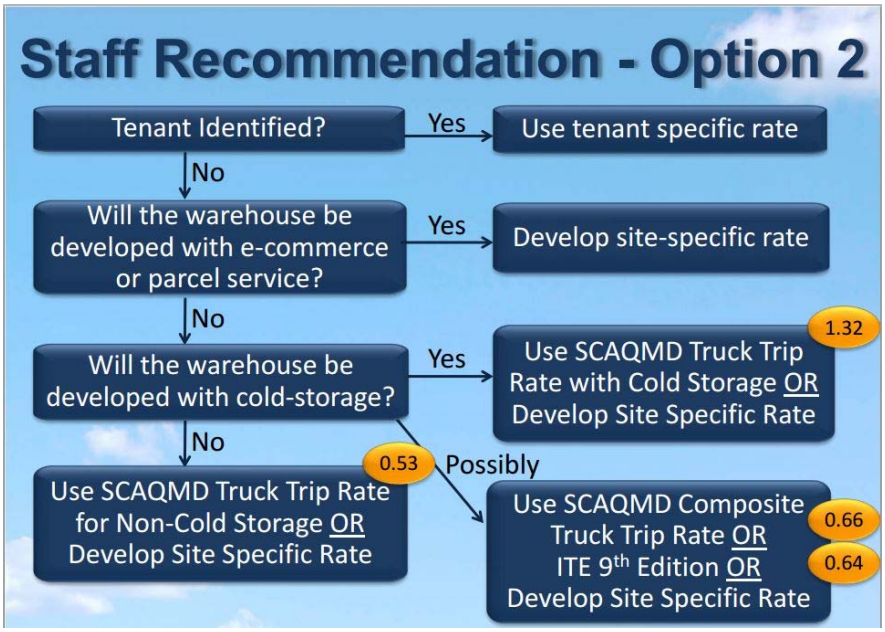
[9] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Mobile Source Committee, July 2014, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/finaltrucktripstudymsc072514.pdf?sfvrsn=2, p. 10

[10] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Mobile Source Committee, July 2014, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/finaltrucktripstudymsc072514.pdf?sfvrsn=2, p. 10

[11] "Truck Trip Generation Study." City of Fontana, County of San Bernardino, State of California, August 2003, *available at*: http://www.tampabayfreight.com/pdfs/Freight%20Library/Fontana%20Truck%20Generation%20Study.pdf, p. 35

[12] "Truck Trip Generation Study." City of Fontana, County of San Bernardino, State of California, August 2003, *available at*: http://www.tampabayfreight.com/pdfs/Freight%20Library/Fontana%20Truck%20Generation%20Study.pdf, p. 6

[13] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Mobile Source Committee, July 2014, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/finaltrucktripstudymsc072514.pdf?sfvrsn=2, p. 11



Following Option 1, the Project Applicant utilized the ITE's truck trip rate of 0.64 for high-cube warehouse/distribution center (ITE Code 152) (Table 2, Exhibit E, p. 25). However, according to the SCAQMD, "CEQA requires the use of a 'conservative analysis' to afford the 'fullest possible protection of the environment.'"[14] As a result, the most conservative analysis, or worst-case scenario, should be conducted. Therefore, the Project Applicant should have followed Option 2 and utilized a truck trip rate of 1.32, since the Project possibly could construct a refrigerated warehouse (Exhibit C, p. 2).

When the recommended truck trip rate of 1.32 is used to estimate the number of trips expected to occur throughout Project operation, rather than the 0.64 truck trip rate used within the IS/MND, we find that the Project's truck trips increase by approximately 107%, resulting in an increase of approximately 318 truck trips per day or approximately 116,070 truck trips per year (see table below).

		IS/MND Model		SWAPE Model	
Building	**Size (square feet)**	**Truck Trip Rate[1]**	**# of Daily Truck Trips**	**Truck Trip Rate**	**# of Daily Truck Trips**
High-Cube Warehouse	466,400	0.64	298	1.32	616
Total Daily Truck Trips		**-**	**298**	**-**	**616**
Total Annual Truck Trips		**-**	**108,770**	**-**	**224,840**
1. Truck trip Rate Per 1,000 Square Feet			**Increase in Daily Truck Trips**		**318**
2. Increase in Trips = SWAPE Model - MND Model			**Increase in Annual Truck Trips**		**116,070**
3. Annual Trips = Daily Trips x 365 Days			**Percent Increase**		**107%**

[14] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Inland Empire Logistics Council, June 2014, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/final-ielc_6-19-2014.pdf?sfvrsn=2

Additionally, the IS/MND and associated exhibits rely on a total truck fleet mix of approximately 20 percent, which is taken from the Fontana Study. As a result, the Project's CalEEMod model utilizes the following fleet mix: 79.6 percent cars, 3.5 percent 2-axle trucks, 4.6 percent 3-axle trucks and 12.3 percent 4-axle trucks (Exhibit C, pp. 235). This fleet mix, however, is not consistent with recommendations set forth by the SCAQMD, and does not accurately represent the percentage of trucks that access a high-cube warehouse on a daily basis. Rather, SCAQMD recommends that lead agencies assume a truck fleet mix of 40%. According to *Appendix E: Technical Source Documentation* of the CalEEMod User's Guide, "in order to avoid underestimating the number of trucks visiting warehouse facilities," SCAQMD staff "recommends that lead agencies conservatively assume that an average of 40% of total trips are truck trips [(0.48*10 + 0.2*4)/(10+4)=0.4)]."[15] If Project-specific data is not available, such as detailed trip rates based on a known tenant schedule, this average of 40% provides a reasonably conservative value based on currently available data. Since the future tenant is unknown, the tenant schedule is also likely not known; therefore, a 40% truck fleet mix should also be assumed.
The following fleet mix percentage should have been used within the CalEEMod model.

CalEEMod Parameter		IS/MND Model Input	SWAPE Model Input
Operational Mobile Fleet Mix	Passenger Cars (LDA)	79.6%	59.14%
	2 Axle Trucks (LHDT1)	3.5%	6.92%
	3 Axle Trucks (MHD)	4.6%	9.28%
	4+ Axle Trucks (HHDT)	12.3%	24.66%

The "Operational Mobile Fleet Mix" percentages for trucks (LHDT1, MHD, and HHDT) in the table above were adjusted to reflect a truck trip percentage of approximately 40 percent, which is consistent with recommended procedures set forth by SCAQMD staff. This fleet mix more accurately represents the number of trips that are likely to occur during Project operation. As such, an updated air quality analysis should be prepared in a DEIR that adequately assesses the Project's air quality and GHG impacts.

The notion that the Fontana Truck Trip Study should not be used to evaluate the air quality impacts for the proposed Project is further supported by comments provided by the California Air Resources Board (CARB) staff, which counsels the Project Applicant to provide a revised air quality analysis that uses the High-Cube Warehouse Vehicle Trip Generation Analysis prepared for by the Institute of Traffic Engineers instead of the Fontana Study (Staff Report, pp. 1344). Additionally, the SCAQMD has previously made similar comments for other land use development projects subject to CEQA. For example, the SCAQMD commented that the Addendum to the Heartland Specific Plan EIR, located in Beaumont, should have also used a "more typical 40% truck fleet mix" instead of the truck fleet mix utilized by the Addendum to the EIR.[16] Furthermore, proposed warehouses located in the City of Fontana are using the truck fleet mixes recommended by the SCAQMD, rather than the Fontana Truck Trip Study. For example, according to the Traffic Impact Analysis prepared by Urban Crossroads for the West Valley Logistics Center,

[15] "Appendix E Technical Source Documentation." CalEEMod User's Guide, July 2013, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/high-cube-resource-caleemod-appendix-e.pdf?sfvrsn=2, pp. 15

[16] "Review of the Addendum to the Heartland Specific Plan Certified EIR," *SCAQMD*, June 2013, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2013/june/heartland-specific-plan.pdf, p. 3

> "The SCAQMD is currently recommending the use of the ITE Trip Generation manual in conjunction with their truck mix by axle-type to better quantify trip rates associated with local warehouse and distribution projects, as truck emission represent more than 90 percent of air quality impacts from these projects. This recommended procedure has been utilized for the purposes of this analysis in effort to be consistent with other technical studies being prepared for the Project."[17]

Therefore, to demonstrate consistency with analyses for other warehouse projects within SCAQMD jurisdiction and within the City of Fontana itself, the IS/MND should have used the truck fleet percentages recommended by the SCAQMD.

Incorrectly Applied Percent Fleet Mix to Trip Type Percentage

Not only did the IS/MND rely upon an artificially low truck fleet mix percentage to estimate the Project's mobile-source emissions, but it also incorrectly applied this fleet mix percentage to the trip type percentage within the Project's air pollution model. As a result, the Project's operational mobile-source emissions are both greatly underestimated and extremely inaccurate.

As discussed in the section above, the fleet mix utilized within the CalEEMod model is as follows: 79.6 percent cars, 3.5 percent 2-axle trucks, 4.6 percent 3-axle trucks and 12.3 percent 4-axle trucks (Exhibit C, pp. 235). This corresponds to a total fleet mix of 79.6 percent passenger cars and 20.4 percent heavy-duty trucks. Review of the Project's CalEEMod output files demonstrates that instead of inputting the Project-specific fleet mix into model, the fleet mix was incorrectly applied to the trip types. Specifically, a trip type percentage of 20.40 percent was applied to commercial-work (C-W) trips with an associated trip length of 40 miles to represent the truck traffic that would occur during Project operation (Exhibit C, pp. 255). Furthermore, the total truck percentage of 79.60 percent was applied to commercial-nonwork (C-NW) trips with an associated trip length of 6.9 miles to represent the passenger car traffic that would occur during Project operation (see excerpt below) (Exhibit C, pp. 255).

	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
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	40.00	8.40	6.90	20.40	0.00	79.60	92	5	3

The application of these percentages to the trip types within CalEEMod, however, is entirely incorrect, as each trip type does not specifically apply to a vehicle class. According to Appendix A of the CalEEMod User's Guide, "the trip type breakdown describes the purpose of the trip generated at each land use," and "multiplying the total trips for a land use by trip type breakdown percentage yields trips for a given trip type."[18] This trip type, however, does not specifically apply to vehicle classes, as is assumed by the

[17] "Traffic Impact Analysis, West Valley Logistics Center," *Urban Crossroads*, October 2017, *available at:* https://www.fontana.org/DocumentCenter/View/24049, p. 100

[18] "CalEEMod User's Guide, Appendix A: Calculation Details for CalEEMod." SCAQMD, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2, p. 20

IS/MND. C-W trips are not made by trucks, exclusively. Rather, "the commercial-work trip represents a trip made by someone who is employed by the commercial land use sector," which can include trips made by employees in light-duty trucks and passenger cars as well as trips made by vendors in light-duty and heavy-duty trucks.[19] Similarly, the C-NW trip "represents a trip associated with the commercial land use other than by customers or workers. An example of C-NW trips includes trips made by delivery vehicles of goods associated with the land use," which can include trips made by vendors in light-duty, medium-duty, and heavy-duty trucks.[20] Applying a trip percentage of 20.4 percent to C-W trips with a 40 mile trip length to represent the number of truck trips that will occur during Project operation is incorrect, as C-W trips include trips made by a mix of vehicle types. Similarly, applying a trip percentage of 79.6 percent to C-NW trips with a trip length of 6.9 miles to represent the number of passenger car trips that will occur during Project operation is incorrect, as C-NW trips include trips made by a mix of vehicle types, including trucks.

By incorrectly applying the Project's vehicle fleet mix percentage to the CalEEMod trip types, the Project's mobile-source emissions are inaccurately estimated and artificially reduced, as C-NW trips are not solely made by passenger cars, and C-W trips are not solely made by heavy-duty trucks. Due to these reasons, we require that an updated air quality analysis be prepared in a DEIR in order to adequately assess the Project's air quality and GHG impacts.

Failure to Evaluate Operational Emissions from All Potential Sources

Review of the IS/MND demonstrates that the Project Applicant failed to assess the emissions associated with use of transport refrigeration units (TRUs), which are typically used by cold-storage warehouses. Although the IS/MND attempts to justify why the potential impacts from use of this equipment was not evaluated within the IS/MND or its associated exhibits, we find the IS/MND's justification to be unsubstantiated, and conclude that as a result of the IS/MND's failure to evaluate these potential emissions, the Project's air quality analysis is incorrect and unreliable. Until the potential air quality impacts from use of TRUs during Project operation are adequately and properly evaluated, the Project should not be approved.

The IS/MND attempts to justify the omission of a proper analysis of the potential criteria air pollutant emissions generated by use of TRUs by claiming that the proposed Project will not generate any TRU trips during operation. Specifically, the IS/MND states,

> "The applicant does not intend to operate a 'cold-storage warehouse' and therefore there is no need to analysis the potential air quality impacts that may occur with such a use" (p. A-6).

However, according to the IS/MND, the future tenants of the warehouse are unknown at this time (pp. 134). Therefore, in order to conduct the most conservative analysis the Project Applicant inputted a

[19] "CalEEMod User's Guide, Appendix A: Calculation Details for CalEEMod." SCAQMD, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2, p. 20
[20] "CalEEMod User's Guide, Appendix A: Calculation Details for CalEEMod." SCAQMD, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2, p. 20

refrigerated warehouse land use within the CalEEMod and modeled emissions as if the entire warehouse will be refrigerated (see excerpt below) (Exhibit C, pp. 134, pp. 234).

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	466.40	1000sqft	10.71	466,400.00	0
Other Non-Asphalt Surfaces	76.33	1000sqft	1.75	76,330.00	0
Parking Lot	236.00	Space	3.54	94,400.00	0

Since the Project's tenants are unknown and the IS/ MND acknowledges that future tenants could require refrigeration, it is reasonable to assume that the tenants could also require TRUs. Therefore, in order to actually provide the most conservative analysis, as is required by CEQA[21], emissions from TRUs should have been assessed.

Furthermore, since the Project is proposing to construct 36 trucking docks as part of the warehouse (pp. 1), the Project must adhere to the California Code of Regulation, Title 13, Division 3, Chapter 9, Article 8, Section 2477.17.[22] This section requires facilities with 20 or more loading dock spaces that serve refrigerated areas to submit a Facility Report to the Air Resources Board (ARB).[23] Section 2477.17 requires reporting to assess the amount of truck trips and type of truck trips that a project would generate. The section also requires the following information to be included within the report:

> "The number of refrigerated trailers (as defined) that are used at the facility for cold storage, the total annual number of hours of TRU engine operation associated with these refrigerated trailers, and the total annual number of hours of operation using electric standby associated with these refrigerated trailers."[24]

Since the Project may have tenants that require on-site refrigeration, it is reasonable to assume that the tenants would also require refrigerated docks. In this case, the tenants would be required under the California Code of Regulation to document the number of TRU trips, the TRU engine operation hours, and the number of hours that the TRU trucks would be on electric standby at the Project site. Thus, in order to provide the most conservative analysis, not only should have the potential emissions from the TRU trips been evaluated in the IS/MND, but the Project Applicant should have also estimated the number of hours and resulting emissions that would be generated by TRUs relying on electric standby on-site during Project operation. The critical nature of the IS/MND's omission concerning this issue and failure to conduct such an analysis is reinforced by CARB's comments on the IS/MND, in which CARB states that failing to analyze the potential emissions and impacts associated with use of TRUs during Project operation would "significantly underestimate" the Project's NOx emissions (pp. 1337). Therefore, by failing to analyze the potential emissions associated with TRU trips and electric standby,

[21] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Inland Empire Logistics Council, June 2014, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/final-ielc_6-19-2014.pdf?sfvrsn=2

[22]"Final Regulation Order," *CARB*, *available at:* https://www.arb.ca.gov/diesel/tru/documents/fro_10-16-12.pdf

[23] "Final Regulation Order," *CARB*, *available at:* https://www.arb.ca.gov/diesel/tru/documents/fro_10-16-12.pdf, p. 2 and p. 51-52

[24] https://www.arb.ca.gov/diesel/tru/documents/fro_10-16-12.pdf, p. 51-52

the IS/MND's air quality analysis is greatly underestimated and should not be used to determine Project significance.

Incorrectly Applied Localized Significance Thresholds

Review of the Air Quality and Greenhouse Gas Analysis, found in Exhibit C, demonstrates that the Project Applicant compared the Project's construction and operational emissions to both regional thresholds and localized significance thresholds (LSTs) (pp. 54, pp. 62-63). However, due to the Project's type and size, LSTs should not be used to determine the proposed Project's impacts.

The LST method allows a user to compare a Project's CO, NOx, PM10, and PM2.5 emissions to mass rate look-up tables to determine if the Project would result in significant localized air quality impacts.[25] However, these mass rate look-up tables are limited in scope and, therefore, not applicable to all Projects proposed within SCAQMD jurisdiction. Table 3-2 from SCAQMD's *Final Localized Significance Threshold Methodology* demonstrates which Projects cannot use the screening table (see excerpt below).[26]

Table 3-2. Typical Projects Where Screening Tables May Not Apply

Project Sites Larger than 5 acres	Projects that require more than one shift
Projects at RECLAIM facilities	Project sites where emissions are distinctly non-uniform across site
Projects at Title V facilities	Operational sources where fumigation or building downwash is anticipated
Large Combustion Sources	General Plans

Review of the IS/MND clearly demonstrates that the LST screening tables are not applicable to this Project. First, as noted in the IS/MND, the Project site is approximately 15 acres and therefore clearly exceeds the 5-acre maximum lot allowed by the LST methodology. Second, the Project's emissions will not be uniform across the Project site. According to the IS/MND,

> "Truck access will occur at the northerly project driveways at Orchard Avenue and Vermont Avenue with adequate space for four (4) trucks to queue on-site at the Orchard Avenue driveway and three (3) trucks to queue on-site at the Vermont Avenue driveway" (pp. 5).

Therefore, emissions from trucks entering the Project site and idling on the Project site will only occur at the northern part of the Project site instead of across the entire site, for example. As a result, the Project's emissions are not uniform across the site and the LST screening tables are not applicable to this

[25] "Final Localized Significance Threshold Methodology," *SCAQMD*, July 2008, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf, p. 9

[26] "Final Localized Significance Threshold Methodology," *SCAQMD*, July 2008, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf,Tale 3-2, p. 28

Project. For these reasons, the LST methodology is not applicable to the Project and should not be relied upon to make a significance determination.

Failure to Adequately Evaluate Project Alternatives

Review of the IS/MND demonstrates that the Project Applicant suggested three possible alternatives to the proposed Project (pp. 133). However, the IS/MND fails to adequately evaluate each of the Project's proposed alternatives.

According to IS/MND, since none of the three project alternatives would change the overall project design or building square footage when compared to the proposed Project, emissions generated during construction and operation of any of the three alternatives would not be "substantially" different from the proposed Project (pp. 134). As a result, the IS/MND determines that Alternative 1 would generate the most vehicle trips per day and, therefore, considers Alternative 1 to be the worst-case scenario (pp. 134). The IS/MND fails to provide any further analysis of any of the three alternatives, which violates requirements set forth in CEQA Guidelines.

According to CEQA Guideline 15126.6(d), an evaluation of each alternative should be conducted in order to determine the most environmentally superior option.[27] CEQA Guideline 15126.6(d) specifically states,

> "The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project... If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed."[28]

Therefore, by simply relying on daily trip rates to determine that Alternative 1 is the worst-case scenario, the IS/MND fails to provide a "meaningful evaluation, analysis, and comparison" of the potential impacts resulting from Alternative 1, or any of the other alternatives, as is required by CEQA. The Project Applicant cannot simply state that the emissions would not "substantially" differ without providing an analysis of the other two alternatives. Furthermore, the IS/MND cannot accurately determine the worst-case scenario based on the daily trip rate alone, as the daily trip rate is not a good estimation of potential construction emissions or of a project's total operational impact. As a result, the Project should conduct an actual assessment of all the alternatives in order to determine the environmentally superior project alternative. Prior to Project approval, a DEIR should be prepared that includes an assessment of all of the Project alternatives.

Failure to Evaluate Foreseeable Project Alternatives Could Lead to Piecemealing

The Project Applicant is currently proposing to construct a 466,400 square foot warehouse, however, as previously stated review of the IS/MND indicates that other land uses may be required by future tenants

[27] "15126.6 Consideration and Discussion of Alternatives to the Proposed Project, *available at*: http://resources.ca.gov/ceqa/guidelines/art9.html
[28] "15126.6 Consideration and Discussion of Alternatives to the Proposed Project, *available at*: http://resources.ca.gov/ceqa/guidelines/art9.html

on the Project site. The Project Applicant states that should another land use be approved on the Project site, additional CEQA analyses will be conducted. However, this could lead to piecemealing and, as a result, any foreseeable Project alternative will not have been considered within the IS/MND prior to Project approval.

Review of the IS/MND demonstrates that the City of Gardena commented on the Project's Air Quality Report and concluded that the Project Applicant should have analyzed the potential emissions from a "fulfillment center" (p. A-5). Furthermore, CARB commented on the Project's Air Quality Report and stated that the Project Applicant should have analyzed the potential emissions from a "cold-storage warehouse" (p. A-6). In response to both the City of Gardena and CARB's comments, the IS/MND states that since there is a lack of environmental analysis for either a "fulfillment center" or a "cold-storage warehouse," "a Project Design Feature" is included as part of the Mitigation Monitoring Plan (MMP) requiring additional CEQA analyses and Los Angeles Department of City Planning approval" if either of those land uses are approved for the Project site (p. A-5, p. A-6).

Thus, according to the IS/MND, should the future tenant of the Project site require either a "fulfillment center" or a "cold-storage warehouse," additional analyses will be conducted, potentially in a separate environmental document. The IS/MND's failure to prepare any kind of air quality analysis on the potential impacts resulting from a fulfillment center or cold-storage warehouse and use of a Project Design Feature (PDF) to rectify the lack of such analyses is concerning, and presents a significant issue, as the preparation of subsequent and separate air quality analyses could lead to piecemealing. According to the Association of Environmental Professionals (AEP) piecemealing is prohibited by CEQA.[29] In regard to piecemealing, AEP states the following,

> "Piecemealing or segmenting means dividing a project into two or more pieces and evaluating each piece in a separate environmental document, rather than evaluating the whole of the project in one environmental document. This is explicitly forbidden by CEQA, because dividing a project into a number of pieces would allow a Lead Agency to minimize the apparent environmental impacts of a project by evaluating individual pieces separately, each of which may have a less-than-significant impact of the environment, but which together may result in a significant impact. Segmenting a project may also hinder developing comprehensive mitigation strategies. In general, if an activity or facility is necessary for the operation of a project, or necessary to achieve the project objectives, or a reasonably forseeable consequence of approving the project, then it should be considered an integral project component that should be analyzed within the environmental analysis."[30]

As described above, failing to analyze all potential impacts in the same environmental document can lead to piecemealing. Review of the IS/MND demonstrates that since the future tenant is unknown, the definite future land use on the Project site is unknown as well. Either TRUs and fulfillment center uses should be absolutely prohibited, or they should be studied now. If they are not prohibited now, there is

[29] "CEQA Portal Topic Paper," *AEP, available at:* https://ceqaportal.org/tp/Project%20Description%2003-23-161.pdf
[30] *Ibid.*

potential for a future tenant to propose construction of land uses on the Project site that differ from the land uses proposed and evaluated within the IS/MND, such as a "fulfillment center" or "cold-storage warehouse," then this should be considered as a "foreseeable consequence," and these potential impacts should be evaluated within the IS/MND. In order to avoid piecemealing, all potential land use alternatives should have been evaluated by the Project Applicant. Prior to Project approval, the Project Applicant should prepare a DIER that analyzes all potential land uses the future tenant may require. By failing to prepare such an analysis, the IS/MND fails to provide a comprehensive evaluation of all the Project's potential impacts.

Updated Analysis Indicated Increase in Criteria Air Pollutant Emissions

In an effort to accurately estimate the proposed Project's operational emissions, we prepared two updated air models using the most recent CalEEMod version, CalEEMod.2016.3.2- one to model warehouse emissions from Passenger Cars (LDA) and one to model warehouse emissions from trucks. We utilized a truck trip rate of 1.32 trips per thousand square foot for the refrigerated warehouse land use, which reflects the most conservative analysis and recommendations set forth by the SCAQMD.[31] Furthermore, for the passenger car model, we utilized a trip rate of 2.24, which reflects the trip rate used by the IS/MND's CalEEMod model minus our updated truck trip rate (3.56 - 1.32 = 2.24). Consistent with the SCAQMD, we assumed that 40% of the warehouse vehicle trips would be made by trucks, and we applied the SCAQMD recommended truck fleet mix by axle type to the trucks only model (LHDT1, MHD, and HHDT) (see table below). [32]

SCAQMD Recommended Fleet Mix	
Truck Type	**Fleet Mix (%)**
4+ Axle Trucks (HHDT)	60.35%
3 Axle Trucks (MHD)	22.71%
2 Axle Trucks (LHDT1)	16.94%
Total	**100.0%**

We assigned 100 percent of trips to the C-NW trips with a corresponding trip length of 6.90 miles in our passenger car model. In our truck model, we assigned 100 percent of trips to the C-W trip type with a corresponding trip length of 40 miles to represent the anticipated truck traffic associated with the proposed Project.

When correct input parameters are used to model emissions from the proposed Project, we find that the emissions increase significantly when compared to the IS/MND's mitigated emissions. Furthermore,

[31] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Mobile Source Committee, July 2014, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/finaltrucktripstudymsc072514.pdf?sfvrsn=2, p. 11

[32] "Appendix E Technical Source Documentation." CalEEMod User's Guide, July 2013, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/high-cube-resource-caleemod-appendix-e.pdf?sfvrsn=2, pp. 15

we find that the Project's operational NOx emissions exceed the SCAQMD's regional significance threshold of 55 pounds per day (lbs/day) (see table below).

Maximum Daily Operational Emissions (lbs/day)						
Model	**VOC**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
IS/MND	14.7	49.2	50.3	0.21	11.9	3.4
SWAPE Total	30.8	228	81.6	0.74	27.3	8.7
Percent Difference	**109%**	**364%**	**62%**	**252%**	**129%**	**155%**
SCAQMD Regional Threshold (lbs/day)	**55**	**55**	**550**	**150**	**150**	**55**
Exceed?	No	***Yes***	No	No	No	No

As demonstrated in the table above, when correct, site-specific input parameters are used to model emissions, all criteria air pollutant emissions increase for Project operation. VOC emissions increase by approximately 109%, NOx emissions increase by approximately 364% and exceed the SCAQMD's established threshold, CO emissions increase by approximately 62%, SOx emissions increase by approximately 252%, PM10 emissions increase by approximately 129%, and PM2.5 emissions increase by approximately 155%.

These updated emission estimates are still underestimated, as they do not incorporate the operational emissions associated with TRU trips and TRU energy demands when on the Project site. However, our model demonstrates that when the Project's operational emissions are estimated with corrected truck fleet percentages and truck trip rates, the Project would result in a significant impact that would not be mitigated to a less than significant level with the IS/MND's proposed mitigation measures. As a result, a DEIR should be prepared that includes an updated air pollution model to adequately estimate the Project's emissions, and additional mitigation measures should be identified and incorporated to reduce these emissions to a less-than-significant level.[33]

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The IS/MND evaluates the Project's health-related impacts by preparing a health risk assessment (HRA) that assesses diesel particulate matter (DPM) emissions released during construction and operational activity (Exhibit C, p. 72). The IS/MND determines that the proposed Project would result in an excess cancer risk of 5.28 in one million for the 30-year residential cancer risk, which is less than the SCAQMD's threshold of 10 in one million (Exhibit C, p. 74). Furthermore, the IS/MND asserts that,

> "Therefore, the on-going operations of the proposed project would result in a less than significant impact due to the cancer risk from diesel emissions created by the proposed project. As the residential cancer risk does not exceed 10 in a million, it is anticipated that any offsite worker risk (where the potential for exposure is only 8 hours instead of 24 hours per day) would also not exceed 10 in a million" (Exhibit C, p. 74).

[33] See section titled "Feasible Mitigation Measures Available to Reduce Operational Emissions" on p. 29 of this letter. These measures would effectively reduce operational NOx and DPM emissions from trucking activities.

As a result, the IS/MND concludes that the Project would not cause a significant risk to residents or workers (Exhibit C, p. 74). Review of the IS/MND's HRA, however, demonstrates that: (1) the HRA relies upon emission estimates from a flawed CalEEMod model; (2) the HRA fails to use correct age-specific breathing rates; and (3) the HRA is conducted with 30-year averaged DPM emissions. As a result, we find both the Project's construction-related and operational health risk impacts to be inadequately addressed and greatly underestimated.

We conclude that the Project's health-related impacts have in inadequately evaluated for several reasons. First, the IS/MND's operational HRA relies upon emissions estimates from a flawed CalEEMod model to estimate the excess cancer risk posed to nearby residents as a result of Project operation. Specifically, our review of the Project's CalEEMod model and corresponding emissions estimates, as discussed in the sections above, found that the model relied upon incorrect and unsubstantiated input parameters in order to estimate the Project's emissions. Because the emissions estimates from the Project's CalEEMod model are underestimated, it is reasonable to assume that the Project's operation-related health risk assessment underestimates the health risk posed to sensitive receptors near the Project site. As a result, we find the IS/MND's HRA and subsequent significance determination to be incorrect and unreliable and should not be relied upon to determine the significance of the Project's operational health impact.

Second, review of the IS/MND's HRA demonstrates that an inhalation rate of 572 liters per kilogram per day (L/kg-day) was used to estimate the cancer risk posed to children, which is inconsistent with guidance set forth by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations and guidance on how to conduct health risk assessments in California (see excerpt below) (Exhibit C, pp. 205).

[Dose-air (mg/(Kg-day)]*Cancer Potency*[1x10^{-6}] = Potential Cancer Risk

Where:
Cancer Potency Factor = 1.1
Dose-inh = (C¬air * DBR * A * EF * ED *ASF*FAH* 10-6) / AT

Where:
Cair [Concentration in air (µg/m3)] = (Calculated by AERMOD Model)
DBR [Daily breathing rate (L/kg body weight – day)] = 261 for adults, 572 for children, and 1,090 for infants, and 361 for 3rd trimester per SCAQMD Permit Application Package "M" Table 9.1 guidance.

By relying on an inhalation rate of 572 L/kg-day to evaluate a child receptor's cancer risk, the HRA underestimates children's the heightened susceptibility to toxic air contaminant emissions. As a result, we find the Project's health-related impact to be misrepresented and underestimated. As such, the conclusions made within the IS/MND's HRA should not be relied upon to determine Project significance.

In August of 2012, OEHHA formally adopted the *Technical Support Document for Exposure Assessment and Stochastic Analysis*.[34] Chapter three of this document discusses "age-specific breathing rates for use in health risk assessments for short-term exposure…and for long-term daily average exposures resulting

[34] https://oehha.ca.gov/media/downloads/crnr/tsdportfolio2012.pdf

from continuous or repeated 8-hour exposure."[35] OEHHA recommends the long-term daily breathing rates in Table 3.1 of this document (see excerpt below).

Table 3.1. Recommended Point Estimates for Long-Term Daily Breathing Rates

	3rd Trimester	0<2 years	2<9 years	2<16 years	16<30 years	16<70 years
	L/kg-day					
Mean	225	658	535	452	210	185
95th Percentile	361	1090	861	745	335	290
	m^3/day					
Mean	15.3	6.2	10.7	13.3	15.0	13.9
95th Percentile	23.4	11.2	16.4	22.6	23.5	22.9

Therefore, to provide an appropriate analysis of the health effects on children, the 95th percentile breathing rate for children should have been applied at the time the analysis was conducted. Review of the HRA, however, demonstrates that a breathing rate of 572 L/kg-day was used to estimate the Project's health risk impacts, rather than the 95th percentile breathing rates associated with each age category, as outlined in the table above (Exhibit C, pp. 205). As a result, the Project's health risk impacts are underestimated. This age specific breathing rate should be applied in an updated HRA in order to accurately determine the potential cancer risk posed to children residing near the Project site. Until such an analysis is conducted, the conclusions made within the IS/MND's HRA should not be relied upon to determine the significance of the health-related impact posed to nearby sensitive receptors.

Third, review of the HRA demonstrates that the cancer risk for each receptor was modeled using the average concentration of DPM over the course of 30 years (Table 18, Exhibit C, p. 78). This presents a significant issue, as the average concentration of DPM will be lower than the actual emissions that will emitted during construction of the Project and during the early stages of Project operation. Therefore, we conclude that the Project's HRA fails to accurately estimate the risk posed to infant and child sensitive receptors, as a lower emission rate is used to estimate the excess cancer risk. This conclusion is further supported by the SCAQMD staff, who also commented on the HRA's inappropriate use of a 30-year average DPM concentration. In their comments, the SCAQMD staff states,

> "Since emissions from the Proposed Project-generated trucks get cleaner with time due to existing regulations and technologies, it would not be appropriate to average out the emissions over the 30-year exposure duration since this would underestimate the health risks to children who would be exposed to higher DPM concentrations during the early years of project operation" (pp. 1333).

Both SWAPE's and the SCAQMD staff's opinions reflect OEHHA Guidance, which states,

> "The HRA must include emission estimates for all substances that are required to be quantified in the facility's emission inventory report. Specifically, HRAs should include both annual average

[35] https://oehha.ca.gov/media/downloads/crnr/tsdportfolio2012.pdf, p. 3-1

emissions and maximum 1-hour emissions for each pollutant. Maximum 1-hour emissions are used for acute noncancer health impacts while annual emissions are used for chronic exposures (i.e., chronic and 8-hour noncancer health impacts or cancer risk assessment)."[36]

As you can see in the excerpt above, OEHHA guidance specifically states that annual average emissions should be used to estimate the cancer risk posed by construction and operation of the Project, not an emission rate that is averaged over the entire course of the Project. Review of the Staff Report and the IS/MND demonstrates that the Project Applicant estimates the health risk using the 30-year averaged DPM emissions throughout the report and, as a result, underestimates the health risk posed to sensitive receptors.

For the reasons mentioned above, we find the IS/MND's evaluation of the Project's health risk impact resulting from construction and operation to be inadequate and unreliable. As such, the Project Applicant should prepare an updated HRA of the Project's potential health-related impact and compare the results to applicable thresholds.

Updated Health Risk Assessment Indicates Significant Health Impact

In an effort to demonstrate the actual potential health risk posed by Project construction and operation to nearby sensitive receptors, we prepared a simple screening-level health risk assessment. The results of our assessment, as described below, provide substantial evidence that when updated emissions estimates, correct ag-specific breathing rates, and conservative emission estimates are used to estimate the Project's construction-related health-risk impact, and when the Project's operational DPM emissions are quantified and properly evaluated, we find that the Project may result in a potentially significant health risk impact that was not previously identified in the IS/MND.

As of 2011, the Environmental Protection Agency (EPA) recommends AERSCREEN as the leading air dispersion model, due to improvements in simulating local meteorological conditions based on simple input parameters.[37] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA[38] and the California Air Pollution Control Officers Associated (CAPCOA)[39] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). 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.

---

[36] "Air Toxics Hot Spots Program," *OEHHA,* February 2015, *available at*: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 4-6

[37] "AERSCREEN Released as the EPA Recommended Screening Model," USEPA, April 11, 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf

[38] "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

[39] "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

We prepared a preliminary health risk screening assessment of the Project's health-related impact to sensitive receptors using the annual construction-related PM_{10} exhaust estimates from the IS/MND's CalEEMod model and using the annual operational PM_{10} exhaust estimates SWAPE's CalEEMod models. According to the IS/MND, the closest residential receptor to the Project site is located approximately 125 feet, or 38 meters, from the Project site (pp. 707). Consistent with recommendations set forth by OEHHA, we used a residential exposure duration of 30 years, starting from the infantile stage of life. We also assumed that construction and operation of the Project would occur in quick succession, with no gaps between each Project phase. The IS/MND CalEEMod model's annual emissions indicate that construction activities will generate approximately 234 pounds of DPM over the 273-day construction period. 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.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{234\ lbs}{273\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.004500\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.004500 grams per second (g/s). The SWAPE annual CalEEMod output files indicated that operational activities will generate approximately 610 pounds of DPM per year over the 29.25-years of operation. Applying the same equation used to estimate the construction DPM emission rate, we estimated the following emission rate for Project operation.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{610\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.008771\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.008771 g/s. Construction and operational activity was simulated as a 15-acre rectangular area source in AERSCREEN, with dimensions of 295 meters by 205 meters. A release height of three meters was selected to represent the height of exhaust stacks on 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 AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10%.[40] For example, for the MEIR the single-hour concentration estimated by AERSCREEN for Project construction is approximately 2.701 µg/m^3 DPM at approximately 50 meters 0.2701 µg/m^3 for Project construction at the MEIR. For Project operation, the single-hour concentration at the MEIR estimated by AERSCREEN is approximately 5.264 µg/m^3 DPM at approximately 50 meters downwind. Multiplying this

[40] http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf

single-hour concentration by 10%, we get an annualized average concentration of 0.5264 µg/m^3 for Project operation at the MEIR.

We calculated the excess cancer risk to the residential receptors located closest to the Project site using applicable health risk assessment methodologies prescribed by OEHHA and the SCAQMD. Consistent with the construction schedule proposed by the IS/MND, the annualized average concentration for construction was used for the first 0.75 years of the infantile stage of life (0 to 2 years). The annualized average concentration for operation was used for the remainder of the 30-year exposure period, which makes up the remainder of the infantile stage of life (0 to 2 years), the child stages of life (2 to 16 years), and adult stages of life (16 to 30 years). Consistent with OEHHA guidance, we used Age Sensitivity Factors (ASFs) to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.[41] According to the updated guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant) and should be multiplied by a factor of three during the child stage of life (2 to 16 years). Furthermore, in accordance with guidance set forth by OEHHA, we used 95th percentile breathing rates for infants.[42] We used a cancer potency factor of 1.1 (mg/kg-day)$^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown below.

The Maximum Exposed Individual at an Existing Residential Receptor (MEIR)

Activity	Duration (years)	Concentration (µg/m^3)	Breathing Rate (L/kg-day)	ASF	Cancer Risk
Construction	0.75	0.2701	1090	10	3.3E-05
Operation	1.25	0.5264	1090	10	1.1E-04
Infant Exposure Duration	***2.00***			***Infant Exposure***	***1.4E-04***
Operation	14.00	0.5264	572	3	1.9E-04
Child Exposure Duration	***14.00***			***Child Exposure***	***1.9E-04***
Operation	14.00	0.5264	261	1	2.9E-05
Adult Exposure Duration	***14.00***			***Adult Exposure***	***2.9E-05***
Lifetime Exposure Duration	**30.00**			**Lifetime Exposure**	**3.6E-04**

The excess cancer risks to adults, children, and infants at the MEIR located approximately 50 meters away, over the course of Project construction and operation are 29, 190, and 140 in one million, respectively. Furthermore, the excess cancer risk over the course of a residential lifetime (30 years) at the MEIR is approximately 360 in one million. Consistent with OEHHA guidance, exposure was assumed to begin in the infantile stage of life to provide the most conservative estimates of air quality hazards. The infant, child, adult, and lifetime cancer risks all exceed the SCAQMD's threshold of 10 in one million.

[41] "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

[42] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," June 5, 2015, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=6, p. 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

It should be noted that our analysis represents a screening level HRA, which is known to be more conservative, and tends to err on the side of health protection.[43] The purpose of a screening-level HRA, however, is to determine if a more refined HRA needs to be conducted. If the results of a screening-level health risk are above applicable thresholds, then the Project needs to conduct a more refined HRA that is more representative of site specific concentrations. Our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. As a result, a refined HRA must be prepared to examine air quality impacts generated by Project construction and operation using site-specific meteorology and specific equipment usage schedules. A DEIR must be prepared to adequately evaluate the Project's health risk impact, and should include additional mitigation measures to reduce these impacts to a less-than-significant level.[44]

Mitigation Measures Available to Reduce Construction Emissions

Our updated air quality analysis and HRA demonstrates that, when Project activities are modeled correctly, construction-related DPM emissions would result in significant air quality and health risk impacts. Therefore, additional mitigation measures must be identified and incorporated in a DEIR to reduce these emissions to a less than significant level.

Additional mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures,* which attempt to reduce GHG levels, as well as reduce criteria air pollutants such as particulate matter.[45] DPM is a byproduct of diesel fuel combustion, and are emitted by on-road vehicles and by off-road construction equipment. Mitigation for criteria pollutant emissions should include consideration of the following measures in an effort to reduce construction emissions.

Limit Construction Equipment Idling Beyond Regulation Requirements

Heavy duty vehicles will idle during loading/unloading and during layovers or rest periods with the engine still on, which requires fuel use and results in emissions. The California Air Resources Board (CARB) Heavy-Duty Vehicle Idling Emissions Reduction Program limits idling of diesel-fueled commercial motor vehicles to five minutes. Reduction in idling time beyond the five minutes required under the regulation would further reduce fuel consumption and thus emissions. The Project applicant must develop an enforceable mechanism that monitors the idling time to ensure compliance with this mitigation measure.

[43] https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 1-5

[44] See mitigation measures listed in section titled "Feasible Mitigation Measures Available to Reduce Operational Emissions" on p. 30 of this letter. These measures would effectively reduce operational DPM emissions, as well as GHG emissions.

[45] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative (NEDC) is a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology. The NEDC recommends that contracts for all construction projects require the following diesel control measures: [46]

- All diesel onroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA 2007 onroad emissions standards or (2) emission control technology verified by EPA[47] or the California Air Resources Board (CARB)[48] to reduce PM emissions by a minimum of 85 percent.
- All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85 percent.
- All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85 percent for engines 50 horse power (hp) and greater and by a minimum of 20 percent for engines less than 50 hp.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend[49] approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited.[50] Due to this limitation, the NEDC proposes actions that can be taken to reduce emissions from existing equipment in the *Best Practices for Clean Diesel Construction* report.[51] These actions include but are not limited to:

- Repowering equipment (i.e. replacing older engines with newer, cleaner engines and leaving the body of the equipment intact).

Engine repower may be a cost-effective emissions reduction strategy when a vehicle or machine has a long useful life and the cost of the engine does not approach the cost of the entire vehicle or machine. Examples of good potential replacement candidates include marine vessels, locomotives, and large

---

[46] Diesel Emission Controls in Construction Projects, *available at:*http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf

[47] For EPA's list of verified technology: https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel

[48] For CARB's list of verified technology: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

[49] Biodiesel lends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements: http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf

[50]http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf

[51]http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf

construction machines.[52] Older diesel vehicles or machines can be repowered with newer diesel engines or in some cases with engines that operate on alternative fuels (see section "Use Alternative Fuels for Construction Equipment" for details). The original engine is taken out of service and a new engine with reduced emission characteristics is installed. Significant emission reductions can be achieved, depending on the newer engine and the vehicle or machine's ability to accept a more modern engine and emission control system. It should be noted, however, that newer engines or higher tier engines are not necessarily cleaner engines, so it is important that the Project Applicant check the actual emission standard level of the current (existing) and new engines to ensure the repower product is reducing emissions for DPM.[53]

- Replacement of older equipment with equipment meeting the latest emission standards.

Engine replacement can include substituting a cleaner highway engine for a nonroad engine. Diesel equipment may also be replaced with other technologies or fuels. Examples include hybrid switcher locomotives, electric cranes, LNG, CNG, LPG or propane yard tractors, forklifts or loaders. Replacements using natural gas may require changes to fueling infrastructure.[54] Replacements often require some re-engineering work due to differences in size and configuration. Typically, there are benefits in fuel efficiency, reliability, warranty, and maintenance costs.[55]

Install Retrofit Devices on Existing Construction Equipment

PM emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation. [56] It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications.

---

[52] Repair, Rebuild, and Repower, EPA, *available at:*https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#repair

[53] Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Projects Information, *available at https://nepis.epa.gov/Exe/ZyNET.exe/P100CVIS.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C11thru15%5CTxt%5C00000003%5CP100CVIS.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL*

[54] Alternative Fuel Conversion, EPA, *available at:* https://www.epa.gov/vehicle-and-engine-certification/information-consumers-about-alternative-fuel-conversions

[55] Cleaner Fuels, EPA, *available at:*https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#cleaner

[56] Retrofit Technologies, EPA, *available at:* https://www.epa.gov/state-and-local-transportation/vehicle-emissions-inspection-and-maintenance-im-regulations

Use Electric and Hybrid Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[57] report also proposes the use of electric and/or hybrid construction equipment as a way to mitigate DPM emissions. When construction equipment is powered by grid electricity rather than fossil fuel, direct emissions from fuel combustion are replaced with indirect emissions associated with the electricity used to power the equipment. Furthermore, when construction equipment is powered by hybrid-electric drives, emissions from fuel combustion are also greatly reduced. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation,[58] which specialize in the mechanical processing equipment like grinders and shredders. Construction equipment powered by hybrid-electric drives is also commercially available from companies such as Caterpillar[59]. For example, Caterpillar reports that during an 8-hour shift, its D7E hybrid dozer burns 19.5 percent fewer gallons of fuel than a conventional dozer while achieving a 10.3 percent increase in productivity. The D7E model burns 6.2 gallons per hour compared to a conventional dozer which burns 7.7 gallons per hour.[60] Fuel usage and savings are dependent on the make and model of the construction equipment used. The Project Applicant should calculate project-specific savings and provide manufacturer specifications indicating fuel burned per hour.

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[61] report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, for each onroad construction vehicle, nonroad construction equipment, or generator, the contractor should submit to the developer's representative a report prior to bringing said equipment on site that includes:[62]

- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.
- The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
- The Certification Statement[63] signed and printed on the contractor's letterhead.

---

[57] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[58] Peterson Electric Grinders Brochure, *available at:* http://www.petersoncorp.com/wp-content/uploads/peterson_electric_grinders1.pdf

[59] Electric Power Products, *available at:* http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html

[60] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[61] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[62] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf

[63] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf The NEDC Model Certification Statement can be found in Appendix A.

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each onroad construction vehicle, nonroad construction equipment, or generator onsite, includes: [64]

- Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
- Any problems with the equipment or emission controls.
- Certified copies of fuel deliveries for the time period that identify:
    - Source of supply
    - Quantity of fuel
    - Quality of fuel, including sulfur content (percent by weight).

In addition to these measures, we also recommend that the Applicant implement the following mitigation measures, called "Enhanced Exhaust Control Practices,"[65] that are recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD):

1. The project representative shall submit to the lead agency a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.
    - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
    - The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
    - This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment.
    - The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average.
    - This plan shall be submitted in conjunction with the equipment inventory.
    - Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
    - The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.

[64] Diesel Emission Controls in Construction Projects, *available at:*http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf
[65]http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedExhaustControlFINAL10-2013.pdf

3. The project representative shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.
    - Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the lead agency monthly.
    - A visual survey of all in-operation equipment shall be made at least weekly.
    - A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

When combined, the measures that we recommend in these comments offer a cost-effective, feasible way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently reduces DPM emissions released during Project construction. A project-specific DEIR must be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions. Furthermore, the Project Applicant needs to demonstrate commitment to the implementation of these measures prior to Project approval to ensure that the Project's construction-related emissions are reduced to the maximum extent possible.

Greenhouse Gas

Failure to Adequately Evaluate the Project's Greenhouse Gas Impacts

The IS/MND evaluates the Project's GHG impact by comparing the Project's estimated GHG emissions to the SCAQMD 2008 screening level threshold of 10,000 metric tons per year of carbon dioxide equivalents (MT CO_2e/year).[66] Based off this, the IS/MND concludes that since the Project's total unmitigated GHG emissions would be approximately 9,057 MT CO_2e/yr and the Project's total mitigated GHG emissions would be approximately 7,467 MT CO_2e/yr, which are both below the SCAQMD's significance threshold, the Project would have a less than significant GHG impact (Table 24, pp. 222; Table 25, pp. 223). However, the IS/MND's CalEEMod model relies upon incorrect input parameters to estimate the Project's criteria air pollutant and GHG emissions, resulting in an underestimation of Project emissions. Therefore, we find the IS/MND's quantitative GHG analysis to be incorrect and unreliable and should not be relied upon to determine Project significance.

In an effort to more accurately evaluate the proposed Project's GHG impact, we conducted a simple analysis using the emission estimates provided in our updated CalEEMod model and SCAQMD modeling

[66] See "Use of an Outdated Threshold" on p. 27 of this letter regarding the use of the 10,000 MT CO_2e/year threshold.

guidance. Based on the results of our analysis, discussed below, there is substantial evidence supporting a fair argument that the proposed Project may have a significant GHG impact, even if one uses the IS/MND's 10,000 MT CO_2e/year threshold.[67] As such, a DEIR should be prepared to adequately evaluate the Project's GHG impact, and additional, feasible mitigation should be applied to the Project in an effort to mitigate the Project's GHG emissions to the maximum extent possible.

Table 24 of the IS/MND demonstrates that construction of the Project would generate 16.41 MT CO_2e per year (when amortized over 30 years) (Table 24, pp. 222). SWAPE's annual passenger car and truck trip CalEEMod models demonstrate that operation of the Project would generate a total of 17,286 MT CO_2e per year. When the Project's amortized construction emissions and operational emissions from the SWAPE model are combined, we find that the Project's GHG emissions would exceed the significance threshold used in the IS/MND (see table below).

Annual Greenhouse Gas Emissions	
Emission Source	**Proposed Project (MT CO_2E)**
Mobile (Trucks)	12,336
Mobile (Passenger Cars)	776
Energy - Electricity	3335
Energy - Natural Gas	23
Area	0.02
Water	596
Waste	220
Amortized Construction Emissions	16.41
Project Total	**17,302**
Significance Threshold	**10,000**
Exceed?	***Yes***

As you can see in the table above, when we compare the updated emissions estimated by SWAPE to the threshold of 10,000 MT CO_2e/yr used the IS/MND, we find that the Project's emissions would exceed this threshold, thus resulting in a potentially significant impact. The results of this analysis provide substantial evidence that when the Project's emissions are modeled correctly, the Project's GHG emissions would increase and result in a more severe GHG impact than what was previously identified in the IS/MND.

Use of Outdated Greenhouse Gas Significance Threshold

We question whether the SCAQMD's 2008 10,000 MT CO_2e/year represents the best, most up to date regulatory standards, and if this interim threshold is even applicable to the project.

In December 2008, the SCAQMD released its *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans* report.[68] According to this Interim Guidance, the SCAQMD proposes the use of a 3,000 metric tons of carbon dioxide equivalents per year (MT CO_2e/yr) threshold for mixed use developments, a 3,500 MT CO_2e/yr threshold for residential developments, a 1,400 MT CO_2e/yr threshold for commercial developments, and a 10,000 MT CO_2e/yr threshold for industrial projects. However, these thresholds were never formally proposed by the SCAQMD staff and never adopted by the SCAQMD board. As a result, these thresholds were never officially adopted as a valid threshold or part of a plan "adopted by the relevant public agency through a public review process" as CEQA requires.[69]

Furthermore, the SCAQMD developed this threshold when the Global Warming Solutions Act of 2006, commonly known as ("AB 32"), was the governing statute for GHG reductions in California. AB 32 requires California to reduce GHG emissions to 1990 levels by 2020.[70] However, in September 2016, prior to the release of the IS/MND, Governor Brown signed Senate Bill 32, enacting HEALTH & SAFETY CODE § 38566. AR 305.[71] This statute ("SB 32") requires California to achieve a new, more aggressive 40% reduction in GHG emissions over the 1990 level by the end of 2030. As a result, the IS/MND must comply with SB 32, which would include a more aggressive GHG threshold. As a result, the 2008 SCAQMD interim thresholds are outdated.

Review of other warehouse developments in SCAQMD jurisdiction reveals that similar projects have used the SCAQMD's commercial threshold of 1,400 MT CO_2e/year to determine Project significance. For example, the Caprock Warehouse Project DEIR,[72] which proposed to construct a similar sized warehouse in the City of Rialto, used the 1,400 MT CO_2e/yr threshold to evaluate the project's GHG impact. Although this threshold has not formally been adopted, as discussed above, it provides a more aggressive target for warehouse projects and would be compliant with SB 32.

Additionally, regardless of the requirements set forth in SB 32, the SCAQMD's 1,400 MT CO_2e/yr commercial threshold may be more appropriate for the proposed Project. As previously mentioned, the future tenants of the Project are unknown at this time (pp. 134) and the Project Applicant concedes that a "fulfillment center" could be built on site (p. A-5). Therefore, it is possible that once operational, the site could be used for industrial and commercial uses, rather than solely industrial uses. As a result, the Project should have conducted the most conservative analysis possible, as is required by CEQA[73], and

---

[68] http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2

[69] "Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans." SCAQMD, October 2008, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2, p. 5

[70] HEALTH & SAFETY CODE § 38500 et seq.; AR 235, 470.

[71] http://www.latimes.com/politics/la-pol-ca-jerry-brown-signs-climate-laws-20160908-snap-story.html

[72] "Draft Environmental Impact Report State Clearinghouse No. 2015101071." *City of Rialto*, July 2016, *available at:* http://yourrialto.com/wp-content/uploads/2015/06/CapRock-Distribution-Center-III-DEIR.pdf

[73] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Inland Empire Logistics Council, June 2014, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/final-ielc_6-19-2014.pdf?sfvrsn=2

should have used the 1,400 MT CO_2e/year threshold to evaluate the Project's GHG impacts. If the IS/MND had used this threshold, the Project's GHG emissions would have greatly exceeded this threshold and demonstrated that the Project would result in a significant GHG impact.

Emission Reduction Plans Available to Reduce Operational Emissions

Our GHG analysis demonstrates that the Project's GHG emissions would result in a significant air quality impact. As previously stated, the Project proposes the "construction, use and maintenance of a new, one-story, with a 25,000 square-foot mezzanine, 54-foot tall, 341,402 square-foot warehouse/manufacturing/high-cube warehouse/distribution center" (p. F-5). Additionally, the IS/MND states that "the project proximity to the Harbor Freeway (I-110 Freeway) will enable of the facility to handle a large number of truck deliveries without adversely affecting surrounding residential and commercial communities by reducing the need to use surface streets for good movement" (p. F-5). Therefore, because the Project proposes to construct a warehouse/distribution center that will involve goods movement, which will most likely be to and from the Port of Los Angeles or the Port of Long Beach, located approximately 14 miles and 15 miles away, respectively, and because the Project's GHG emissions were found to exceed thresholds, the Project Applicant should consider complying with Port Emission Reduction Plans in order to reduce the Project's impacts. Specifically, the City of Los Angeles Harbor Department and the Long Beach City Council both adopted plans intended to reduce port-related operational emissions. Since SWAPE's updated GHG analysis demonstrated that the Project's emissions would exceed the SCAQMD's significance threshold by approximately 7,302 MT CO_2e/yr when modeled correctly, the Project Applicant should consider the measures set forth in the Green LA Climate Action Plan or the 2017 San Pedro Bay Ports Clean Air Action Plan, discussed in the sections below, to reduce the Project's impacts.

Green LA City of Los Angeles Harbor Department Climate Action Plan

As noted in the IS/MND, the Project states that it will be consistent with the Green LA Action Plan (p. 88). In May of 2007, the City of Los Angeles adopted the Green LA: An Action Plan to Lead the Nation in Fighting Global Warming (LA Green Action Plan), which was developed to reduce the generation and emissions of GHGs within the region. Per the Green LA Action Plan, the City's goal is to reduce carbon dioxide emissions 35 percent below 1990 levels by 2030 by "increasing the generation of renewable energy, improving energy conservation and efficiency, and changing transportation and land use patterns to reduce dependence on automobiles".[74] Green LA served as guidance for the Port of Los Angeles to develop an individual Climate Action Plan (CAP), consistent with the goals of Green LA, which identifies specific measures that the Port of Los Angeles has taken and intends to take in order to reduce operational emissions within the City of Los Angeles Harbor Department.[75] Our air quality and GHG analysis demonstrates that the Project's operational emissions were significantly underestimated in the IS/MND. Furthermore, SWAPE's GHG analysis demonstrates that the Project's GHG emissions would far exceed the SCAQMD's 10,000 MT CO_2e/yr threshold when the Project's emissions are modeled

[74] "Climate Action Plan: Strategies for Municipally-Controlled Sources." Green LA, City of Los Angeles Harbor Department, December 2007, *available at:* https://www.portoflosangeles.org/DOC/REPORT_Climate_Action_Plan.pdf, p. 1

[75] *Ibid.*

correctly. Therefore, the Project Applicant should review the mitigation measures provided within the CAP to reduce operational emissions resulting from use of heavy duty vehicles/trucks traveling to and from the Project site and from Project operation.

San Pedro Bay Ports Clean Air Action Plan

In November 2006, the Port of Long Beach and Port of Los Angeles designed and approved the San Pedro Bay Ports Clean Air Action Plan (CAAP). The CAAP was developed by the SCAQMD, CARB, and the Environmental Protection Agency (EPA) and jointly approved by the Port of Los Angeles Board of Harbor Commissioners and the Port of Long Beach Board of Harbor Commissioners.[76] The strategies identified within the CAAP aim to reduce the health risks posed by emissions generated by port-related mobile sources such as ships, trucks, trains, harbor craft, and cargo-handling equipment have resulted in significant reductions in particulate matter, nitrogen oxide, and sulfur oxide emissions.[77] The CAAP was updated in 2010 and again in November 2017. In June 2017, Mayor Eric Garcetti of the City of Los Angeles and Mayor Robert Garcia of the City of Long Beach announced a joint plan to develop a zero-emissions good movement where, ultimately, there will be zero emissions from cargo handling equipment by 2030, and zero emissions for on-road drayage trucks serving ports by 2035.[78] The most up-to-date guidance includes the following:

> "Expansion of at-berth emissions reductions; a pilot project to test zero-emission drayage trucks; establishment of a CAAP Implementation Stakeholder Advisory Group that would discuss and report on CAAP implementation progress and progress on related energy projects; development of a Green Ports Collaborative to advance similar goals with other climate mayors along the West Coast and throughout the nation, and, finally, a joint effort to secure funding to support necessary equipment purchases and infrastructure development".[79]

The Project Applicant should consider the measures and guidance set forth in the San Pedro Bay Ports CAAP in order to reduce the Project's GHG impact, potentially to a less than significant level.

Feasible Mitigation Measures Available to Reduce Operational Emissions

As noted above, our analysis demonstrates that the Project's GHG emissions would result in a significant air quality impact. In an effort to reduce these emissions, we identified several mitigation measures that are applicable to the Project. Mitigation measures that could be implemented to reduce GHG emissions include, but are not limited to, the following:

- Use passive solar design, such as: [80,81]

[76] *Ibid,* p. 17
[77] http://www.cleanairactionplan.org/strategies/
[78] "2017 Clean Air Action Plan Update." San Pedro Bay Ports, November 2017, *available at:* http://www.cleanairactionplan.org/documents/final-2017-clean-air-action-plan-update.pdf, p. 4-5
[79] *Ibid,* p. 4
[80] Santa Barbara Air Pollution Control District, Scope and Content of Air Quality Sections in Environmental Documents, September 1997.
[81] Butte County Air Quality Management District, Indirect Source Review Guidelines, March 1997.

    - Orient buildings and incorporate landscaping to maximize passive solar; heating during cool seasons, and minimize solar heat gain during hot seasons; and
    - Enhance natural ventilation by taking advantage of prevailing winds.
- Reduce unnecessary outdoor lighting by utilizing design features such as limiting the hours of operation of outdoor lighting.
- Develop and follow a "green streets guide" that requires:
    - Use of minimal amounts of concrete and asphalt;
    - Installation of permeable pavement to allow for storm water infiltration; and
    - Use of groundcovers rather than pavement to reduce heat reflection.[82]
- Implement Project design features such as:
    - Shade HVAC equipment from direct sunlight;
    - Install high-albedo white thermoplastic polyolefin roof membrane;
    - Install high-efficiency HVAC with hot-gas reheat;
    - Install formaldehyde-free insulation; and
    - Use recycled-content gypsum board.
- Provide education on energy efficiency to residents, customers, and/or tenants. Provide information on energy management services for large energy users.
- Meet "reach" goals for building energy efficiency and renewable energy use.
- Limit the use of outdoor lighting to only that needed for safety and security purposes.
- Require use of electric or alternatively fueled sweepers with HEPA filters.
- Include energy storage where appropriate to optimize renewable energy generation systems and avoid peak energy use.
- Plant low-VOC emitting shade trees, e.g., in parking lots to reduce evaporative emissions from parked vehicles.
- Use CARB-certified or electric landscaping equipment in project and tenant operations; and introduce electric lawn, and garden equipment exchange program.
- Install an infiltration basin to provide an opportunity for 100% of the storm water to infiltrate on-site.

In addition to the measures discussed above, the SCAQMD has previously recommended additional mitigation measures for operational NO_x emissions that result primarily from truck activity emissions, which would also reduce the Project's operational GHG emissions. Measures recommended for the Waterman Logistic Center that are also applicable for this Project's commercial uses include:[83]

- Provide electric vehicle charging stations that are accessible for trucks. Provide electrical hookups at the onsite loading docks and at the truck stops for truckers to plug in any onboard auxiliary equipment. The IS/MND includes a condition of Project approval that requires the Project Applicant to "include at least 20 percent of the total number of trailer truck parking

[82] *See* Cool Houston Plan; http://www.harcresearch.org/sites/default/files/documents/projects/CoolHoustonPlan_0.pdf

[83] SCAQMD Comment Letter in Response to MND for the Waterman Logistic Center, January 2018, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/january/mndwaterman.pdf

spaces capable of supporting future electric vehicle supply equipment" and "of the 20 percent EV Ready parking, five percent of the total number of trailer truck parking spaces shall be further provided with EV chargers to immediately accommodate electric vehicles within the parking areas" (pp. 13). We propose that measure be extended to so that of the 20 percent of EV Ready parking spaces, ten percent of the trailer truck parking spaces are equipped with EV chargers.

- Provide minimum buffer zone of 300 meters (approximately 1,000 feet) between truck traffic and sensitive receptors.
- Limit the daily number of trucks allowed at the facility.
- Design the site such that any check-in point for trucks is well inside the facility to ensure that there are no trucks queuing outside of the facility. The IS/MND identifies a Project Design Feature (PDF) that states that reservoirs at the truck access point for Orchard Avenue and Vermont Avenue will be provided for queuing for not less than four and three trucks on-site, respectively. We propose that this measure be amended so that the truck access points for both streets are moved further inside the Project site and allow for a larger number of trucks to queue on-site.
- On-site equipment should be alternative fueled.
- Improve traffic flow by signal synchronization.
- Have truck routes clearly marked with trailblazer signs, so that trucks will not enter residential areas.
- Should the proposed Project generate significant emissions, the Lead Agency should require mitigation that requires accelerated phase-in for non-diesel powered trucks. For example, natural gas trucks, including Class 8 HHD trucks, are commercially available today. Natural gas trucks can provide a substantial reduction in emissions, and may be more financially feasible today due to reduced fuel costs compared to diesel. In the Final CEQA document, the Lead Agency should require a phase-in schedule for these cleaner operating trucks to reduce project impacts.

Finally, additional, feasible mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures,* which attempt to reduce GHG levels.[84] GHG emissions are produced during fuel combustion, and are emitted by on-road vehicles and by off-road equipment. Therefore, to reduce the Project's mobile-source GHG emissions, consideration of the following measures should be made.

- Incorporate Bike Lane Street Design (On-Site)
    - Incorporating bicycle lanes, routes, and shared-use paths into street systems, new subdivisions, and large developments can reduce VMTs. These improvements can help reduce peak-hour vehicle trips by making commuting by bike easier and more convenient for more people. In addition, improved bicycle facilities can increase access to and from transit hubs, thereby expanding the "catchment area" of the transit stop or station and increasing ridership. Bicycle access can also reduce parking pressure on

[84] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

heavily-used and/or heavily-subsidized feeder bus lines and auto-oriented park-and-ride facilities.

- Limit Parking Supply
    - This mitigation measure will change parking requirements and types of supply within the Project site to encourage "smart growth" development and alternative transportation choices by project residents and employees. This can be accomplished in a multi-faceted strategy:
        - Elimination (or reduction) of minimum parking requirements
        - Creation of maximum parking requirements
        - Provision of shared parking
- Implement Commute Trip Reduction Program- Voluntary or Required
    - Implementation of a Commute Trip Reduction (CTR) program with employers will discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The main difference between a voluntary and a required program is:
        - Monitoring and reporting is not required
        - No established performance standards (i.e. no trip reduction requirements)
    - The CTR program should provide employees with assistance in using alternative modes of travel, and provide both "carrots" and "sticks" to encourage employees. The CTR program should include all of the following to apply the effectiveness reported by the literature:
        - Carpooling encouragement
        - Ride-matching assistance
        - Preferential carpool parking
        - Flexible work schedules for carpools
        - Half time transportation coordinator
        - Vanpool assistance
        - Bicycle end-trip facilities (parking, showers and lockers)
- Provide Ride-Sharing Programs
    - Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip, and thus a decrease in VMT. The project should include a ride-sharing program as well as a permanent transportation management association membership and funding requirement. The project can promote ride-sharing programs through a multi-faceted approach such as:
        - Designating a certain percentage of parking spaces for ride sharing vehicles
        - Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles
        - Providing a web site or message board for coordinating rides
- Implement Subsidized or Discounted Transit Program
    - This project can provide subsidized/discounted daily or monthly public transit passes to incentivize the use of public transport. The project may also provide free transfers

between all shuttles and transit to participants. These passes can be partially or wholly subsidized by the employer, school, or development. Many entities use revenue from parking to offset the cost of such a project.

- Provide End of Trip Facilities
    - Non-residential projects can provide "end-of-trip" facilities for bicycle riders including showers, secure bicycle lockers, and changing spaces. End-of-trip facilities encourage the use of bicycling as a viable form of travel to destinations, especially to work. End-of-trip facilities provide the added convenience and security needed to encourage bicycle commuting.
- Implement Commute Trip Reduction Marketing
    - The project can implement marketing strategies to reduce commute trips. Information sharing and marketing are important components to successful commute trip reduction strategies. Implementing commute trip reduction strategies without a complementary marketing strategy will result in lower VMT reductions. Marketing strategies may include:
        - New employee orientation of trip reduction and alternative mode options
        - Event promotions
        - Publications
- Implement Preferential Parking Permit Program
    - The project can provide preferential parking in convenient locations (such as near public transportation or building front doors) in terms of free or reduced parking fees, priority parking, or reserved parking for commuters who carpool, vanpool, ride-share or use alternatively fueled vehicles. The project should provide wide parking spaces to accommodate vanpool vehicles.
- Implement Car-Sharing Program
    - This project should implement a car-sharing project to allow people to have on-demand access to a shared fleet of vehicles on an as-needed basis. User costs are typically determined through mileage or hourly rates, with deposits and/or annual membership fees. The car-sharing program could be created through a local partnership or through one of many existing car-share companies. Car-sharing programs may be grouped into three general categories: residential- or citywide-based, employer-based, and transit station-based. Transit station-based programs focus on providing the “last-mile” solution and link transit with commuters’ final destinations. Residential-based programs work to substitute entire household based trips. Employer-based programs provide a means for business/day trips for alternative mode commuters and provide a guaranteed ride home option.
- Provide Employer-Sponsored Vanpool/Shuttle
    - This project can implement an employer-sponsored vanpool or shuttle. A vanpool will usually service employees’ commute to work while a shuttle will service nearby transit stations and surrounding commercial centers. Employer-sponsored vanpool programs entail an employer purchasing or leasing vans for employee use, and often subsidizing

the cost of at least program administration, if not more. The driver usually receives personal use of the van, often for a mileage fee. Scheduling is within the employer's purview, and rider charges are normally set on the basis of vehicle and operating cost.

- Implement Bike-Sharing Program
    - This project can establish a bike-sharing program to reduce VMTs. Stations should be at regular intervals throughout the project site.
        - For example, Paris' bike-share program places a station every few blocks throughout the city (approximately 28 bike stations/square mile).
- Price Workplace Parking
    - The project should implement workplace parking pricing at its employment centers. This may include: explicitly charging for parking for its employees, implementing above market rate pricing, validating parking only for invited guests, not providing employee parking and transportation allowances, and educating employees about available alternatives.
    - Though similar to the Employee Parking "Cash-Out" strategy, this strategy focuses on implementing market rate and above market rate pricing to provide a price signal for employees to consider alternative modes for their work commute.
- Implement Employee Parking "Cash-Out"
    - The project can require employers to offer employee parking "cash-out." The term "cash-out" is used to describe the employer providing employees with a choice of forgoing their current subsidized/free parking for a cash payment equivalent to the cost of the parking space to the employer.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduces emissions released during Project operation. A DEIR must be prepared to include additional mitigation measures, as well as include an updated air quality and GHG analysis to ensure that the necessary mitigation measures are implemented to reduce operational emissions to below thresholds. Furthermore, the Project Applicant also needs to demonstrate commitment to the implementation of these measures prior to Project approval, to ensure that the Project's operational emissions are reduced to the maximum extent possible.

Sincerely,

Paul E. Rosenfeld, Ph.D.

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

Hadley Nolan

Tel: (949) 887-9013
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

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, 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

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

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 VOC 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 is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling, oil spills, boilers, incinerators and other industrial and agricultural sources relating to nuisance and personal injury. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing petroleum, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, MtBE, fuel oxygenates and odor. Dr. Rosenfeld has evaluated greenhouse gas emissions using various modeling programs recommended by California Air Quality Management Districts.

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:

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., 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, 8-23-2017

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

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 Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
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 Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 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 United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 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 Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.
Case Number: 2007-CP-02-1584

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 Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.
Civil Suit Number 224,041 Division G
Rosenfeld Deposition: September 2008

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

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.
Case Number 1:05 CV 227
Rosenfeld Deposition: July 2008

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05
Rosenfeld Deposition: December 2006, October 2007
Rosenfeld Trial: January 2008

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.
Case Number VCVVS044671
Rosenfeld Deposition: December 2009
Rosenfeld Trial: March 2010

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 Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California Corporation; and DOES 1 through 100, *Defendants.*
Case Number SC094173
Rosenfeld Deposition: September 2008, October 2008

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 though 100, *Defendants.*
Case Number 1229251 (Consolidated with case number 1231299)
Rosenfeld Deposition: January 2008

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants.*
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)
Rosenfeld Deposition: July 2010

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants.*
Civil Action Number 07-4037
Rosenfeld Deposition: March 2010
Rosenfeld Trial: October 2010

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant.*
Case Number 25,151
Rosenfeld Trial: May 2009

In the United States District Court of Southern District of Texas Galveston Division

Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland

Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

HADLEY KATHRYN NOLAN

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Mobile: (678) 551-0836
Office: (310) 452-5555
Fax: (310) 452-5550
Email: hadley@swape.com

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

EDUCATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES **B.S. ENVIRONMENTAL SCIENCES & ENVIRONMENTAL SYSTEMS AND SOCIETY** *JUNE 2016*

PROJECT EXPERIENCE

SOIL WATER AIR PROTECTION ENTERPRISE ***SANTA MONICA, CA***

AIR QUALITY SPECIALIST

SENIOR PROJECT ANALYST: CEQA ANALYSIS & MODELING

- Modeled construction and operational activities for proposed land use projects using CalEEMod to quantify criteria air pollutant and greenhouse gas (GHG) emissions.
- Organized presentations containing figures and tables that compare results of criteria air pollutant analyses to thresholds.
- Quantified ambient air concentrations at sensitive receptor locations using AERSCREEN, a U.S. EPA recommended screening level dispersion model.
- Conducted construction and operational health risk assessments for residential, worker, and school children sensitive receptors.
- Prepared reports that discuss adequacy of air quality and health risk analyses conducted for proposed land use developments subject to CEQA review by verifying compliance with local, state, and regional regulations.

SENIOR PROJECT ANALYST: GREENHOUSE GAS MODELING AND DETERMINATION OF SIGNIFICANCE

- Evaluated environmental impact reports for proposed projects to identify discrepancies with the methods used to quantify and assess GHG impacts.
- Quantified GHG emissions for proposed projects using CalEEMod to produce reports, tables, and figures that compare emissions to applicable CEQA thresholds and reduction targets.
- Determined compliance of proposed land use developments with AB 32 GHG reduction targets, with GHG significance thresholds recommended by Air Quality Management Districts in California, and with guidelines set forth by CEQA.

PROJECT ANALYST: ASSESSMENT OF AIR QUALITY IMPACTS FROM PROPOSED DIRECT TRANSFER FACILITY

- Assessed air quality impacts resulting from implementation of a proposed Collection Service Agreement for Exclusive Residential and Commercial Garbage, Recyclable Materials, and Organic Waste Collection Services for a community.
- Organized tables and maps to demonstrate potential air quality impacts resulting from proposed hauling trip routes.
- Conducted air quality analyses that compared quantified criteria air pollutant emissions released during construction of direct transfer facility to the Bay Area Air Quality Management District's (BAAQMD) significance thresholds.
- Prepared final analytical report to demonstrate local and regional air quality impacts, as well as GHG impacts.

PROJECT ANALYST: EXPOSURE ASSESSMENT OF LEAD PRODUCTS FOR PROPOSITION 65 COMPLIANCE DETERMINATION

- Calculated human exposure and lifetime health risk for over 300 lead products undergoing Proposition 65 compliance review.
- Compiled and analyzed laboratory testing data and produced tables, charts, and graphs to exhibit emission levels.
- Compared finalized testing data to Proposition 65 Maximum Allowable Dose Levels (MADLs) to determine level of compliance.
- Prepared final analytical lead exposure Certificate of Merit (COM) reports and organized supporting data for use in environmental enforcement statute Proposition 65 cases.

ACCOMPLISHMENTS

- **Academic Honoree,** Dean's List, University of California, Los Angeles ***MAR 2013, MAR 2014, JAN 2015, JAN 2016***