ATTACHMENT A

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DUDEK

DRAFT
MEMORANDUM

To:	Ruth Hunter Smith, *Big Lots*
From:	Carey Fernandes, *Dudek*
Subject:	Project Jupiter Project and North Apple Valley Industrial Specific Plan Air Quality and Greenhouse Gas Emissions Comparison Evaluation
Date:	October 27, 2016
cc:	Candice Magnus, *Dudek*
Attachment:	A CalEEMod Output – Operational Emissions

Dudek is pleased to submit this assessment of the Project Jupiter Distribution Warehouse (project), to assist Big Lots with environmental documentation for the project. The project includes development of a 1,360,875-square-foot warehouse including ancillary facilities on a 106.5-acre site which is located within the North Apple Valley Industrial Specific Plan (NAVISP), located in the Town of Apple Valley (Town), California. This memorandum estimates project-generated operational criteria air pollutant and greenhouse gas (GHG) emissions and provides a comparison assessment of the project and the 2006 NAVISP Environmental Impact Report (2006 NAVISP EIR) in regards to air quality and GHG emissions.

This memorandum estimates criteria air pollutant and GHG emissions based on project-specific traffic generation, appropriate trip assumptions (trip distance, vehicle fleet mix) for warehouse projects, and industry standard methodology, for operation of the project evaluated in the *Project Jupiter Mitigated Negative Declaration/Initial Study (MND/IS)*, prepared by the Town in April 2016 (Town of Apple Valley 2016). The assessment compares the estimated project-generated emissions to the Mojave Desert Air Quality Management District (MDAQMD) mass daily and annual emissions thresholds. The analysis contained herein is based on traffic information from the *Project Jupiter Trip Generation Evaluation* provided by Urban Crossroads (Urban Crossroads 2015), the applicant (Noethen, pers. comm. 2016).

The 2006 NAVISP EIR identified that buildout of the NAVISP would have significant air quality impacts (Town of Apple Valley 2006). This memorandum compares estimated project-generated operational criteria air pollutant emissions to NAVISP operational criteria air pollutant

emissions as estimated in the 2006 NAVISP EIR to determine if project-generated emissions are less than, and do not represent a disproportionate share of, the increase in NAVISP buildout emissions over the development potential of the existing General Plan land use designations as estimated in the 2006 NAVISP EIR (Town of Apple Valley 2006).

The 2006 NAVISP EIR did not estimate GHG emissions. Accordingly, estimated project-generated GHG emissions are provided herein, but are not compared to NAVISP emissions.

The contents and organization of this memorandum are as follows: 1) overview of criteria air pollutants and GHGs; 2) brief project description; 3) summary of the NAVISP; 4) discussion of the thresholds of significance; 5) operational emissions modeling and assumptions; 6) comparison of project's criteria air pollutant emissions to the NAVISP-estimated criteria air pollutant emissions; 7) estimated project-generated GHG emissions; 8) estimated project-generated mobile-source emissions that would occur in the South Coast Air Quality Management District (SCAQMD) for disclosure purposes; and 9) references cited.

1 OVERVIEW OF CRITERIA AIR POLLUTANTS AND GREENHOUSE GASES

The project site is located within the Mojave Desert Air Basin (MDAB), which includes the eastern portion of Kern County, northeastern portion of Los Angeles County, eastern portion of Riverside County, and San Bernardino County.

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs; also referred to as reactive organic gases (ROGs)), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size ($PM_{2.5}$). VOCs and NO_x are important because they are precursors to ozone (O_3). Criteria air pollutant emissions associated with operational emission sources evaluated include mobile sources (truck and passenger vehicle trips), area sources (consumer product use, architectural coatings, and landscape maintenance equipment), and energy sources (natural gas use).

GHGs are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor. If the atmospheric concentrations of GHGs rise, the average

temperature of the lower atmosphere will gradually increase. Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: average temperatures have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalent (CO_2E).[1]

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. This approach is consistent with the *Final Statement of Reasons for Regulatory Action* for amendments to the California Environmental Quality Act (CEQA) Guidelines, which confirms that an environmental impact report or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009).

GHG emissions associated with operation of the project were evaluated for energy use (natural gas and generation of electricity consumed by the project); project-generated vehicular traffic (truck and passenger vehicle trips); solid waste generation; and generation of electricity associated with water supply and wastewater treatment.

[1] The CO_2E for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of CO_2E = (metric tons of a GHG) × (GWP of the GHG). CalEEMod assumes that the GWP for CH_4 is 21, which means that emissions of 1 metric ton of CH_4 are equivalent to emissions of 21 metric tons of CO_2, and the GWP for N_2O is 310, based on the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report. Although the IPCC has released subsequent Assessment Reports with updated GWPs, California Air Resources Board reporting and other statewide documents utilize the GWP in the IPCC Second Assessment Report. As such, it is appropriate to use the hardwired GWP values in CalEEMod from the IPCC Second Assessment Report.

2 PROJECT DESCRIPTION

The project located on the southwest corner of Navajo Road and Lafayette Street in the Town. The applicant is seeking to develop a 1,360,875-square-foot warehouse on a 106.5-acre site which is currently undeveloped. The project is located within the NAVISP, which includes approximately 4,937.5 acres dedicated for industrial and supporting land uses. The project is located within the MDAB and is within the jurisdictional boundaries of the MDAQMD.

The project would include various sustainable or "green" building strategies as project design features. Project design the following, based on information provided by the applicant (pers. comm, 2016):

Rideshare Program:

- To encourage associates to participate in carpooling for transportation to and from the DC, the company will provide the following services/incentives (AVDC Inc. 2016.).
    1. The Human Resources office will maintain a bulletin board on which the HR manager will post information on those associates seeking to carpool. The Company will assist interested associates in finding potential carpooling partners.
    2. The Company will designate up to 20 preferred parking spaces at the facility reserved for those associates who participate in carpooling.
    3. The Company will provide referral services and information on ride share matching.
    4. The Company will provide assistance to associates in forming new carpooling groups and ongoing carpooling support.
    5. The Company will provide associates with regularly updated information about options for using public transportation.
    6. Once carpools are established, the Company will track associate carpooling participation patterns.
    7. The Company will coordinate carpooling events throughout the year to provide associates with information on carpooling and to encourage associates to form and maintain carpooling groups.
    8. The Company will disseminate internet websites to associates to provide carpool opportunities (www.erideshare.com and www.carpoolworld.com).
- The Company also will assist interested associates to determine the feasibility of carpooling to and from work and facilitate meetings in which potential carpool groups can initially meet and discuss compatibility. The Company will provide a list of suggested topics for potential carpooling associates to discuss in forming carpool groups

Architecture:

- The project would use low-emissivity window systems and shades for energy savings.
- The project would use low VOC content products (e.g., paints and finishes) that meet or exceed the requirements for CALGreen criteria.
- The project would divert construction waste to recycling facilities in lieu of landfills to reduce emissions associated with landfill off-gassing.
- The project would use higher R-values roof and building insulation for reduced energy consumption.

Mechanical – HVAC:

- The project would utilize a high efficiency packaged single zone variable air volume rooftop units with energy saving economizer, automatic temperature setback, occupancy sensors, and optimized controls for maximum energy performance.
- The project would utilize partial HVAC unit redundancy for times of low cooling demand or maintenance periods; some units can be switched off and still maintain space conditioning to increase energy conservation.
- The project would utilize demand controlled ventilation controlling CO_2 levels, allowing a reduction in fresh air / outside air intake to reduce the mechanical cooling and optimize energy performance.

Plumbing:

- The project would use low-flow water efficient lavatories and urinals in all bathrooms with automatic sensors to reduce water demand and increased water efficiency rating.
- Indoor Water Use
    - The project would install low-flow bathroom faucets, achieving an approximately 77% reduction in water flow.
    - The project would install low-flow toilets, achieving an approximately 31.8% reduction in water flow.
- Outdoor Water Use
    - The project would install water-efficient irrigations systems, achieving an approximately 50% reduction in water use.

Electrical:

- The project would use LED lighting in lieu of fluorescent or HID to achieve a lighting design that uses 31% less energy as allowed by Title 24 requirements.
- The project building's design would exceed Title 24 requirements by approximately 7%.

- The project would install high efficiency lighting, achieving a 31% reduction in energy use.
- The project would install energy efficient fans that would reduce energy consumption.

Implementation of the aforementioned project design features would reduce project-generated criteria air pollutant emissions and GHG emissions. Energy efficiency features would reduce the consumption of natural gas and electricity, specifically energy consumed for building heating, cooling, and lighting, and associated emissions. Water use reduction features would reduce indirect GHG emissions associated with water supply, treatment, and distribution, and wastewater, which are primarily associated with electricity consumed and the treatment process. The diversion of construction solid waste to recycling facilities would reduce CO_2 and CH_4 emissions associated with the decomposition of waste disposed of at a landfill.

3 NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN SUMMARY

In 2006, the Town certified the EIR for the NAVISP, SCH No. 2006031112, dated October 10, 2006, which analyzed the environmental effects resulting from buildout of the 4,937.5 acres within the specific plan area, including 260.9 acres for General Commercial, 740.4 acres for Industrial – Airport, 3,514.4 acres for Industrial – Specific Plan, 340.1 acres for Industrial General, and 81.7 acres for High Desert Corridor.

The 2006 NAVISP EIR estimated project buildout operational criteria air pollutant emissions assuming that the entire NAVISP development projections would be constructed and in operation by 2025. Criteria air pollutant emissions from mobile sources associated with the NAVISP were modeled in the 2006 NAVISP EIR using the URBEMIS ("URBan EMISsions") 2002 Version 8.7 computer program, which was designed to estimate emissions for land use development projects. The URBEMIS 2002 model was based on the California Air Resources Board (CARB) Emission Factors (EMFAC) 2002 mobile source emissions inventory model. URBEMIS was originally developed for the SCAQMD by Jones and Stokes and was the industry standard emissions estimator model for projects within the MDAQMD's jurisdiction boundaries when the NAVISP EIR was prepared in 2005/2006. The 2006 NAVISP EIR estimated project buildout operational emissions associated with electricity (power plant) and natural gas consumption using the SCAQMD 1993 CEQA Air Quality Handbook (Tables A9-11-A, A9-11-B, A9-12-A, and A9-12-B).

The Air Quality analysis in the 2006 NAVISP EIR assumed that passenger vehicles would have an average trip length of 15 miles, diesel delivery trucks would have an average trip length of 10 miles, while heavy-duty diesel trucks would have an average daily trip rate of 25 miles.

Operational emissions generated by the NAVISP, particularly those associated with mobile sources, were assumed to occur within the jurisdiction of the MDAQMD in the 2006 NAVISP EIR.

The 2006 NAVISP EIR estimated that NAVISP buildout operational activities would result in emissions of VOCs (ROGs)[2], NO_x, CO, SO_x, and PM. NAVISP-generated maximum daily and annual criteria air pollutant emissions were estimated in the 2006 NAVISP EIR; however, only annual emissions were compared to the MDAQMD thresholds.

Table 1 presents the NAVISP maximum daily criteria air pollutant emissions from stationary (electricity and natural gas) and mobile sources for the year 2025 as presented in the 2006 NAVISP EIR.

Table 1
NAVISP Estimated Project-Generated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC (pounds/day)	NO_x (pounds/day)	CO (pounds/day)	SO_x (pounds/day)	PM (pounds/day)
Stationary Sources	35.4	1,868.1	321.0	138.7	47.1
Mobile Sources	1,053.6	5,281.0	6,989.4	1,053.6	456.0
Combined Emissions	**1,089.0**	**7,149.2**	**7,310.4**	**1,192.3**	**456.0**

Source: Town of Apple Valley 2006
Notes: Based on Table III-25 Anticipated Cumulative Project-Related Emissions Associated with Buildout of the Proposed Project of the 2006 NAVISP EIR.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM = particulate matter.

Table 2 presents the NAVISP annual criteria air pollutant emissions from stationary (electricity and natural gas) and mobile sources for the year 2025 as presented in the 2006 NAVISP EIR. Table 2 also presents the MDAQMD thresholds the NAVISP-estimated emissions were compared to in the 2006 NAVISP EIR.[3]

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2 VOC was presented as ROG in the 2006 NAVISP EIR; however, for the purposes of criteria air pollutant emissions estimates and comparison, VOC and ROG are considered the same in this memorandum, and VOC is used throughout this memorandum for consistency.

3 The current MDAQMD thresholds are 25 tons/year for VOC, 25 tons/year for NO_x, 100 tons/year for CO, 25 tons/year for SO_x, 15 tons/year for particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (PM_{10}), and 15 tons/year for particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size ($PM_{2.5}$). The current MDAQMD thresholds, in comparison to the MDAQMD thresholds in place at the time the 2006 NAVISP EIR was prepared, the VOC threshold has increased by 10 tons/year and the PM threshold has been replaced by PM_{10} and $PM_{2.5}$ thresholds, which are both 10 tons/year less than the PM threshold.

Table 2
NAVISP Estimated Project-Generated Annual Operational Criteria Air Pollutant Emissions

	VOC (tons/year)	NO_x (tons/year)	CO (tons/year)	SO_x (tons/year)	PM (tons/year)
NAVISP Annual Emissions	142.1	933.0	954.0	155.6	59.5
MDAQMD pollutant threshold	*15*	*25*	*100*	*25*	*25*
Threshold exceeded?	Yes	Yes	Yes	Yes	Yes

Source: Town of Apple Valley 2006
Notes: Based on Table III-25 Anticipated Cumulative Project-Related Emissions Associated with Buildout of the Proposed Project of the 2006 NAVISP EIR.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM = particulate matter.

The 2006 NAVISP EIR stated the following in the summary of operational impacts:

> *"The level of impact anticipated with the proposed project is expected to be significant. These impacts can be mitigated, however, once mitigated development of the Specific Plan will still represent a significant additional increment to the cumulative air quality impacts in the Apple Valley area. The proposed project represents a 25% increase in operational air quality impacts over the development potential of the existing General Plan land use designations."*

The 2006 NAVISP EIR provided a list of various mitigation measures including construction emissions control mitigation, developer's air quality management resources mitigation, and mitigation, monitoring and reporting requirements. The relevant operational emissions reduction strategies listed under the developer's air quality management resources mitigation in the 2006 NAVISP EIR are provided below. All mitigation measures (construction and operation) listed under the NAVISP EIR Mitigation, Monitoring and Reporting requirements are provided for completeness.

Developer's Air Quality Management Resources mitigation related to operational emissions as presented in the 2006 NAVISP EIR are as follows (Town of Apple Valley 2006):

"To minimize indirect source emissions, the developer shall:

- *install low-polluting and high-efficiency appliances;*
- *install energy-efficient street lighting;*
- *landscape with native and other appropriate drought-resistant species to reduce water consumption and to provide passive solar benefits.*

To minimize building energy requirements, the developer may also implement the following:

- *assure the thermal integrity of buildings and reduce the thermal load with automated time clocks or occupant sensors;*
- *use efficient window glazing, wall insulation and ventilation methods; introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units;*
- *incorporate appropriate passive solar design, including solar heaters, and solar water heaters, to the greatest extent feasible;*
- *use devices that minimize the combustion of fossil fuels;*
- *capture waste heat and re-employ this heat, where feasible."*

Although this memorandum focuses on operational emissions and does not estimate construction emissions, all mitigation measures listed under the NAVISP EIR Mitigation, Monitoring and Reporting requirements are provided for completeness. The 2006 NAVISP EIR stated the following in regards to the project's Mitigation, Monitoring and Reporting requirements (Town of Apple Valley 2006):

"In accordance with the terminology outlined in Section 15005 of the California Environmental Quality Act, the following words are used to indicate whether a particular subject in the Guidelines is mandatory, advisory, or permissive: "must" or "shall" identifies a mandatory element which all public agencies are required to follow; "should" identifies guidance provided by the Secretary for Resources based on policy considerations contained in CEQA, in the legislative history of the statute, or in federal court decisions which California courts can be expected to follow. Public agencies are advised to follow this guidance in the absence of compelling, countervailing considerations; "may" identifies a permissive element which is left fully to the discretion of the public agencies involved.

1. *Grading and development permits, as well as required dust control plans, shall be reviewed and conditioned to require the provision of all appropriate methods and technologies to assure the minimal emissions of pollutants from the development, in accordance with existing standards as revised and updated by the Town. The appropriate Town division(s) shall review grading and dust control plan applications to ensure conformance with the mitigation measures set forth in the required CEQA documentation and as otherwise conditioned by the Town. Responsible Parties: Apple Valley Public Works and Building and Safety Divisions.*

2. *The appropriate code enforcement division shall record and document all violations or potential violations of clean air regulations, these mitigation measures or the conditions of approval of this project. Development may be temporarily halted until inadequate controls or unacceptable conditions are corrected to the satisfaction of the Town. Responsible Parties: Apple Valley Public Works and Building and Safety Divisions, MDAQMD.*
3. *Building and landscape plans shall be reviewed for assurance of optimized energy efficiency and soil stabilization, respectively. California Code of Regulations Title 24 and other applicable energy efficiency codes and regulations shall be appropriately applied. Responsible Parties: Apple Valley Public Works and Building and Safety Divisions."*

All projects that tier or addend from the 2006 NAVISP EIR would be required to implement all mitigation measures and conditions of approval as included in the 2006 NAVISP EIR as certified by the Town.

The 2006 NAVISP EIR did not estimate GHG emissions associated with implementation of the NAVISP.

4 THRESHOLDS OF SIGNIFICANCE

Air Quality

The MDAQMD CEQA Guidelines, updated in August 2016, sets forth emission-based significance thresholds which are used to determine whether a project would have a significant impact on air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 3 are exceeded.

Table 3
MDAQMD Air Quality Significance Thresholds

Pollutant	Annual Threshold (tons/year)	Daily Threshold (pounds/day)
VOC	25	137
NO_x	25	137
CO	100	548
SO_x	25	137
PM_{10}	15	82
$PM_{2.5}$	12	65

Source: MDAQMD 2016.
Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; VOC = volatile organic compound; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

Greenhouse Gas Emissions

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15000 et seq.). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). Similarly, the revisions to Appendix G, Environmental Checklist Form, which is often used as a basis for lead agencies' selection of significance thresholds, do not prescribe specific thresholds. Rather, the CEQA Guidelines establish two new CEQA thresholds related to GHGs, and these will therefore be used to discuss significance of project impacts:

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Accordingly, the CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (14 CCR 15000 et seq.).

The MDAQMD has adopted a GHG significance threshold of 100,000 tons of CO_2E per year, and a daily threshold of 548,000 pounds of CO_2E, for use in analyzing GHG emissions of projects.

5 OPERATIONAL EMISSIONS MODELING METHODOLOGY AND ASSUMPTIONS

Project-generated criteria air pollutant and GHG emissions are estimated using the most recent version of the California Emissions Estimator Model (CalEEMod), which is Version 2013.2.2. CalEEMod is the industry standard model, which applies updated and approved emission factors, established methodology, and latest survey data.[4]

As previously described in Section 2, Project Description, the project would include development of a 1,360,875-square-foot warehouse. Motor vehicle emissions refer to exhaust and road dust emissions from the motor vehicles that would travel to and from the project site. Mobile emissions from passenger vehicles and heavy-duty trucks were modeled separately using different CalEEMod runs since each vehicle class is assumed to have a different trip length. The emissions from both sources were estimated using CalEEMod model for estimating of regional emissions. Trip generation rates and fleet mix assumptions from the trip generation evaluation (Urban Crossroads 2015) were used in this analysis. Passenger Car Equivalents (PCE) factors have been applied to the trip generation rates for heavy trucks (e.g., large two-axles, three-axles, four-plus-axles). Consistent with the San Bernardino County Congestion Management Program and standard traffic engineering practice in Southern California, PCE factors have been utilized due to the expected heavy truck component for the proposed project uses. PCE factors allow the

[4] "Emissions calculated using URBEMIS are now outdated and SCAQMD staff recommends all projects now evaluate emissions with CalEEMod if they use software for their analysis." SCAQMD. http://www.aqmd.gov/home/regulations/ceqa/air-quality-modeling

typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, for the purposes of capacity and LOS analyses. A PCE factor of 1.5 has been applied to large two-axle trucks, a factor of 2.0 for three-axle trucks, and a factor of 3.0 for four-plus axle trucks.

The trip generation evaluation provided the project's trips during the AM and PM peak hour. The project is anticipated to generate a total of 211 net PCE trips during the AM peak hours and 244 net PCE trips during the PM peak hours (Urban Crossroads 2015).

The trip generation evaluation provided a truck trip generation rate of 0.64 for the project which accounts for 38.1% of the project's total daily traffic (Urban Crossroads 2015). The evaluation did not provide a passenger vehicle trip generation rate, however, the passenger vehicle trip generation rate was calculated as 1.04. Therefore, the project would have an overall trip rate of 1.68 for the project which is consistent with the trip rate for a high-cube warehouse found within the Institute of Transportation Engineers' *Trip Generation Manual, 9th Edition*.

Mobile Sources

Motor Vehicles - Passenger Vehicle Fleet

The trip generation rates for passenger vehicles used in the analysis are shown in Table 4. As mentioned in the previous section, the passenger vehicle trip rates were derived from the known truck trip generation rate and the truck percentage of the total trips generated by the project.

Table 4
Passenger Vehicle Trip Generation Rates

Land Use	Quantity	Units	Daily Trip Generation Rate (trips/unit/day)		
			Weekday	*Saturday*	*Sunday*
Unrefrigerated Warehouse-No Rail	1,360.875	Ksf	1.04	1.04	1.04

Source: Urban Crossroads 2015.
Note: ksf = thousand square feet.

A pass-by trip accounts for vehicles already on the roadway network that stop at the project site as they pass-by; the pass-by trips are existing vehicle trips in the community. A pass-by rate of 100% was used for the employee trips generated by the project. Consistent with the MND/IS, the CalEEMod default trip lengths for an urban setting were used in this analysis of passenger vehicles.

In addition to trip rates and trip lengths, the trip purpose is also a factor in the calculation of vehicle-generated emissions. In general, CalEEMod determines an overall average trip length for primary, diverted, and pass-by trip link types[5] where primary trips are 100% of the trip length, diverted trips are 25% of the primary trip length, and pass-by trips are 0.1 mile (CAPCOA 2013). The modified trips were assumed to be 100% primary trips, 0% diverted trips, and 0% pass-by trips because the trips and trips lengths input into the model were assumed to exclusively consist of trips traveling to the project site. In addition, CalEEMod also assumes a certain ratio of commercial-to-work (C-W), commercial-to-customer (C-C), and commercial-to-non-work (C-NW) trips based on each land use type. For this analysis, it was assumed that 100% passenger vehicle trips would consist of CW trips because trips include employees who would be employed by the project.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The passenger vehicle fleet mix is shown in Table 5, which was updated by distributing the percentages of all other vehicle types to light duty auto mobile (LDA), light duty truck 1 (LDT1), and light duty truck 2 (LDT2). Therefore, the fleet mix presented in Table 5 includes only passenger vehicles and is based on the CalEEMod default (which is based on EMFAC 2011) mobile source emissions factor model vehicle fleet (CAPCOA 2013).

[5] Trip link types further describe the characteristics of the trip attracted to each land use, whether it is a primary trip, a diverted link trip, or a pass-by trip. For example, a commercial customer pass-by trip could be a person going from home to shop on the way to work. In addition, a commercial customer diverted-link trip could be a person going from home to work, and making a diversion to shop (CAPCOA 2013).

Table 5
Passenger Vehicle Fleet Mix

Type of Vehicle	Fleet Mix Breakdown (%)	
	CalEEMod Default	*Project Analysis*
Light duty automobile (LDA)	43.53	70.00
Light duty truck (LDT1)	6.94	6.00
Light duty truck (LDT2)	18.26	24.00
Medium duty vehicle (MDV)	15.93	0.00
Light-heavy duty truck (LHDT1)	4.55	0.00
Light-heavy duty truck (LHDT2)	0.77	0.00
Medium-heavy duty truck (MHDT)	0.67	0.00
Heavy-heavy duty truck (HHDT)	7.70	0.00
Other bus (OBUS)	0.08	0.00
Urban bus (UBUS)	0.10	0.00
Motorcycle (MCY)	1.00	0.00
School bus (SBUS)	0.06	0.00
Motor home (MH)	0.36	0.00

Source: CAPCOA 2013.

Motor Vehicles - Truck Fleet

The trip generation rates for heavy-duty trucks are shown in Table 6. The trip generation rates are from the project specific traffic study (Urban Crossroads 2015).

Table 6
Truck Trip Generation Rates

Land Use	Quantity	Units	Daily Trip Generation Rate (trips/unit/day)		
			Weekday	*Saturday*	*Sunday*
Unrefrigerated Warehouse-No Rail	1,360.875	Ksf	0.64	0.64	0.64

Source: Urban Crossroads 2015.

As with passenger vehicles, the CalEEMod default pass-by rate was update to 100% for this analysis to account for inbound and outbound trips that will travel directly to and from the project. The CalEEMod default trip length values are not appropriate for these types of heavy-duty truck trips associated with warehouse land uses. A trip length of 98 miles, calculated based on applicant-provided trip data was used in the analysis of the heavy-duty truck fleet.

The heavy-duty truck fleet mix used in this analysis is assumed to consist of light heavy-duty trucks (LHDT1, LHDT2), medium heavy-duty trucks (MHDT), and heavy heavy-duty trucks (HHDT). The heavy-duty truck fleet mix is shown in Table 7, and is based on the project traffic study (Urban Crossroads 2015).

Table 7
Truck Fleet Mix

Type of Vehicle	Fleet Mix Breakdown (%)	
	CalEEMod Default	*Project Analysis*
Light duty automobile (LDA)	43.53	0.00
Light duty truck (LDT1)	6.94	0.00
Light duty truck (LDT2)	18.26	0.00
Medium duty vehicle (MDV)	15.93	0.00
Light-heavy duty truck (LHDT1)	4.55	11.00
Light-heavy duty truck (LHDT2)	0.77	11.00
Medium-heavy duty truck (MHDT)	0.67	17.70
Heavy-heavy duty truck (HHDT)	7.70	60.30
Other bus (OBUS)	0.08	0.00
Urban bus (UBUS)	0.10	0.00
Motorcycle (MCY)	1.00	0.00
School bus (SBUS)	0.06	0.00
Motor home (MH)	0.36	0.00

Source: CAPCOA 2013, Urban Crossroads 2015.

It was assumed that 38.1% of trips would be truck trips (2-axle, 3-axle, and 4+-axle trucks as represented as LHDT1, LHDT2, MHDT, and HHDT), consistent with the assumptions used in the trip generation evaluation. Notably, the LHDT1 and LHDT2 categories includes 2-axle trucks, therefore, the percentage of 2-axle trucks calculated in the trip generation evaluation (22%) was divided between both LHDT1 and LHDT2. Accordingly, as estimated in CalEEMod, operational trips generated by the project would include 1,415 employee vehicle trips and 871 truck trips. Truck trips were separated by inbound and outbound trips and were distributed into several categories which included northern trips (trips to the MDAQMD border traveling north), eastern trips (trips to the MDAQMD/Nevada border), western trips (trips to the Port of Long Beach), and southern trips (trips to SCAQMD's southern border). The trip distribution for inbound and outbound (percent north, south, east, and west) was based on data provided by the applicant (Noethen, pers. comm. 2016). Trip lengths were measured assuming that trucks would travel from the project site to the following locations, which was assumed to be representative of the anticipated project operations (Walker, M. 2016):

- Northern direction (17% inbound and 51% outbound) – MDAQMD boundary (trip length of 57.4 miles)
- Southern direction (4% inbound and 17% outbound) – SCAQMD boundary (trip length of 108 miles)
- Eastern direction (50% inbound and 13% outbound) – MDAQMD boundary (trip length of 94 miles)
- Western Direction (29% inbound and 19% outbound) – Port of Long Beach (trip length of 158 miles)

The customized truck trip length was estimated by taking the weighted average of the inbound and outbound trip distances above based on the percentage of their occurrence. This results in an average trip length of 97 miles. The estimated truck trip length was assumed in CalEEMod in place of the default trip length values. CalEEMod default emission factors for the year 2017 were used to represent the first year of operation as assumed in the 2016 MND/IS prepared for the project.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves are calculated in the building energy use module of CalEEMod, as described in the following text. The project would not include woodstoves or fireplaces (wood or natural gas). As such, area source emissions associated with hearths were not included.

Architectural Coatings (Painting)

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers used during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of nonresidential surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. CalEEMod defaults were updated to comply with MDAQMD Rule 1113. The interior non-residential architectural coating VOC content was assumed to be 100 grams per liter (g/l) and the exterior non-residential architectural coating VOC content was assumed to be 100 g/l. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod default values for nonresidential land uses, it is assumed that the surface area for painting equals 2.0 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. For the parking garage, the architectural coating area

is assumed to be 6% of the total square footage, consistent with the supporting CalEEMod studies provided as an appendix to the CalEEMod User's Guide (CAPCOA 2013).

Consumer Products

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2013). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of nonresidential buildings and on the default factor of pounds of VOC per building square foot per day. Although the parking lot is not anticipated to use the same consumer products as residential and typical nonresidential land uses, VOC emission associated with parking lot degreaser may occur. As such, the CalEEMod default values for consumer products were assumed, although this results in a likely over-estimate of consumer product VOC emissions.

Landscape Maintenance Equipment

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use were estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site.

Electricity

There would be emissions from the power plants that would generate electricity to be used by the project (for lighting, etc.). CalEEMod defaults were used to estimate these emissions from the project.

The Renewable Portfolio Standard requires that electricity providers include a minimum of 33% renewable energy in their portfolios by the year 2020. In 2007, Southern California Edison had 16% renewable energy in its portfolio. The required 25% reduction required for 2016 would apply to the project. The adjusted emission factor for CO_2E for 2016 is 563.29 pounds per megawatt-hours (lb/MWh).

CalEEMod has three categories for electricity consumption: electricity that is impacted by title-24 regulations, non-title-24 electricity, and lighting. The Title 24 uses are defined as the major building envelope systems covered by California's Building Code, Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title-24. Since lighting is not considered as part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. The Title 24 electricity energy intensity was updated by 21.8% to reflect compliance with 2013 Title 24 energy efficiency requirements.

Natural Gas

There would be emissions from the combustion of natural gas used for the project (water heaters, heat, etc.). CalEEMod has two categories for natural gas consumption: Title-24 and Non-Title-24. The Title 24 natural gas energy intensity was updated by 16.8% to reflect compliance with 2013 Title 24 energy efficiency requirements.

Water and Wastewater

There would be GHG emissions from the use of electricity to pump water to the project and to treat wastewater. The CalEEMod default values assume no outdoor water usage for the project (Unrefrigerated Warehouse-No Rail land use type).

Solid Waste

The project would generate solid waste, and therefore, result in CO_2E emissions associated with landfill off-gassing. The CalEEMod default waste generation values was used for this analysis.

6 CRITERIA AIR POLLUTANT EMISSIONS COMPARISON

CalEEMod Version 2013.2.2 was used to estimate project-generated criteria air pollutant emissions, which is the emission estimator model currently recommended by the MDAQMD and is the industry standard land use emissions estimate model. URBEMIS, which was used in the 2006 NAVISP EIR to estimate mobile source emissions, was replaced with CalEEMod;

CalEEMod applies updated and approved emission factors, established methodology, and latest survey data.[6]

As estimated in CalEEMod, the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources (including vehicular traffic generated by delivery trucks and employee vehicles), area sources (consumer products, architectural coatings for maintenance, landscaping equipment), and energy sources (natural gas appliances, space and water heating)[7]. Emissions associated with project-generated daily traffic were estimated using trip-generation rates and vehicle fleet mixes from the trip generation evaluation provided by Urban Crossroads (2015), the applicant (Noethen, pers. comm. 2016.

Table 8 presents the estimated project-generated maximum daily criteria air pollutant emissions from area, energy, and vehicle sources (employee vehicle trips and truck trips) for the year 2017. The values shown are the maximum summer or winter daily emissions (i.e., worst-case) results from CalEEMod. It was assumed that all project-generated emissions, including all mobile source emissions, would occur within the MDAQMD jurisdictional boundaries.

Table 8
Estimated Project-Generated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC (pounds/day)	NO_x (pounds/day)	CO (pounds/day)	SO_x (pounds/day)	PM_{10} (pounds/day)	$PM_{2.5}$ (pounds/day)
Area	102.15	0.00	0.29	0.00	0.00	0.00
Energy	0.07	0.65	0.55	0.00	0.05	0.05
Mobile (employee trips)	3.87	4.82	54.64	0.10	7.90	2.12
Mobile (truck trips)	33.54	630.78	397.58	2.29	91.06	36.47
Total	**139.63**	**636.25**	**453.06**	**2.39**	**99.01**	**38.64**
MDAQMD pollutant threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold exceeded?	**Yes**	**Yes**	No	No	**Yes**	No

Source: MDAQMD 2016, Dudek 2016.
Notes: The values shown for mobile, energy and area sources are the maximum summer or winter daily emissions results from CalEEMod.

[6] "Emissions calculated using URBEMIS are now outdated and SCAQMD staff recommends all projects now evaluate emissions with CalEEMod if they use software for their analysis." SCAQMD. http://www.aqmd.gov/home/regulations/ceqa/air-quality-modeling

[7] As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site.

Area sources = consumer product use, architectural coatings, and landscape maintenance equipment. Energy sources = natural gas. Mobile sources = motor vehicles.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

As shown in Table 8, the combined daily area, energy, and vehicular source emissions would not exceed the MDAQMD operational thresholds for CO, SO_x, and $PM_{2.5}$. However, project emissions would exceed the MDAQMD operational thresholds for VOC, NO_x, and PM_{10}.

Table 9 presents the estimated annual project-generated criteria air pollutant emissions from area sources, energy sources, and vehicle sources (employee vehicle trips and truck trips) for the year 2017. All project-generated emissions were assumed to occur within the MDAQMD jurisdictional boundaries.

Table 9
Estimated Project-Generated Annual Operational Criteria Air Pollutant Emissions

Emission Source	VOC (tons/year)	NO_x (tons/year)	CO (tons/year)	SO_x (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)
Area	18.64	0.00	0.03	0.00	0.00	0.00
Energy	0.01	0.12	0.10	0.00	0.01	0.01
Mobile (employee trips)	0.61	0.93	8.90	0.02	1.41	0.38
Mobile (truck trips)	6.19	116.61	75.38	0.42	16.35	6.58
Total	**25.45**	**117.66**	**84.41**	**0.44**	**17.77**	**6.97**
MDAQMD pollutant threshold	*25*	*25*	*100*	*25*	*15*	*12*
Threshold exceeded?	**Yes**	**Yes**	No	No	**Yes**	No

Source: MDAQMD 2016, Dudek 2016.
Notes: Emissions estimated using CalEEMod.
Area sources = consumer product use, architectural coatings, and landscape maintenance equipment. Energy sources = natural gas. Mobile sources = motor vehicles.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

As shown in Table 9, similar to project daily emissions, the combined annual area, energy, and vehicular source emissions would not exceed the MDAQMD significant thresholds for CO, SO_x, and $PM_{2.5}$. However, estimated annual project emissions would exceed the MDAQMD operational thresholds for VOC, NO_x, and PM_{10}.

Although the project would result in an increase in emissions compared to existing conditions, the project would be built in compliance with the California Title 24 and California Building Code requirements, as well as the California Mechanical Code, Plumbing Code, Electrical Code, and Energy Code, which would ensure that the project would be substantially energy efficient. In addition, the project would include various sustainable or "green" building strategies as project design features, as discussed in Section 2. With

implementation of the project's design features, criteria air pollutant emissions would be further reduced and the project would support the NAVISP mitigation measures as outlined in the 2006 NAVISP EIR.

Table 10 presents a comparison of the estimated project-generated maximum daily emissions and NAVISP buildout maximum daily emissions as estimated in the 2006 NAVISP EIR. The 2006 NAVISP EIR emission estimates assume full buildout conditions would occur in 2025. Project-generated emissions were estimated for 2017.

Table 10
Comparison of the Project and General Plan EIR City-Wide Buildout Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC (pounds/day)	NO_x (pounds/day)	CO (pounds/day)	SO_x (pounds/day)	PM (PM_{10})[1] (pounds/day)	$PM_{2.5}$ (pounds/day)
2006 NAVISP EIR Buildout (2025) Total	1,089.0	7,149.2	7,310.4	1,192.3	456.0	N/A
Project Emissions (2017) Total	139.63	636.25	453.06	2.39	99.01	38.64
Project Emissions Inconsistent with Estimate for 2006 NAVISP EIR Buildout?	No	No	No	No	No	N/A

Sources: Town of Apple Valley 2006, Dudek 2016.
Notes: NAVISP emissions Based on Table III-25 Anticipated Cumulative Project-Related Emissions Associated with Buildout of the Proposed Project of the 2006 NAVISP EIR. NAVISP Emissions were estimated in the EIR using URBEMIS 2002 Version 8.7 and the SCAQMD 1993 CEQA Air Quality Handbook.
Project-generated emissions estimated using CalEEMod.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM = particulate matter; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; N/A = not available.
[1] Estimated project-generated PM_{10} emissions are compared to the 2006 NAVISP EIR-estimated PM emissions for the purposes of this comparison.

As shown in Table 10, the estimated project maximum daily emissions are less than, and do not represent a disproportionate share of, the increase in NAVISP buildout emissions over the development potential of the existing General Plan land use designations as estimated in the 2006 NAVISP EIR (Town of Apple Valley 2006).

Table 11 presents a comparison of the estimated project-generated annual emissions and NAVISP buildout annual emissions as estimated in the 2006 NAVISP EIR. The 2006 NAVISP EIR emission estimates assume full buildout conditions would occur in 2025. Project-generated emissions were estimated for 2017.

Table 11
Comparison of the Project and General Plan EIR City-Wide Buildout Maximum Annual Operational Criteria Air Pollutant Emissions

Emission Source	VOC (tons/year)	NO_x (tons/year)	CO (tons/year)	SO_x (tons/year)	PM (PM_{10})[1] (tons/year)	$PM_{2.5}$ (tons/year)
2006 NAVISP EIR Buildout (2025) Total	142.1	933.0	954.0	155.6	59.5	N/A
Project Emissions (2017) Total	25.45	117.66	84.41	0.44	17.77	6.97
Project Emissions Inconsistent with Estimate for 2006 NAVISP EIR Buildout?	No	No	No	No	No	N/A

Sources: Town of Apple Valley 2006, Dudek 2016.

Notes: NAVISP emissions Based on Table III-25 Anticipated Cumulative Project-Related Emissions Associated with Buildout of the Proposed Project of the 2006 NAVISP EIR. NAVISP Emissions were estimated in the EIR using URBEMIS 2002 Version 8.7 and the SCAQMD 1993 CEQA Air Quality Handbook.
Project-generated emissions estimated using CalEEMod.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM = particulate matter; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; N/A = not available.

[1] Estimated project-generated PM_{10} emissions are compared to the 2006 NAVISP EIR-estimated PM emissions for the purposes of this comparison.

As shown in Table 11, the estimated project annual emissions are less than, and do not represent a disproportionate share of, the net increase in NAVISP buildout emissions over the development potential of the existing General Plan land use designations as estimated in the 2006 NAVISP EIR (Town of Apple Valley 2006).

Therefore, with incorporation of 2006 NAVISP EIR mitigation, as well as project design features, project impacts associated with air quality standard violations (as determined by the potential to exceed established MDAQMD emissions thresholds) would continue to be significant, although the level of impact would not be substantially more severe than the levels identified in the 2006 NAVISP EIR.

7 GREENHOUSE GAS EMISSIONS

Operation of the project would result in GHG emissions through energy use (electricity and natural gas); motor vehicle trips; electricity usage associated with water supply, treatment, and distribution and wastewater treatment; and solid waste disposal. Annual GHG emissions from these sources were estimated using CalEEMod. CalEEMod was used to estimate project-generated mobile source emissions from employee trips and truck trips based on the trip generation evaluation provided by Urban Crossroads (2015), the applicant (Noethen, pers. comm. 2016) was also used to estimate emissions from the project's area sources, which includes

operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. The estimation of operational energy emissions was based on CalEEMod land use defaults and units or total area (i.e., square footage) of the project. Water consumption estimates for both indoor and outdoor water use were based on CalEEMod default values. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Table 12 presents estimated maximum daily project-generated GHG emissions from area sources, energy sources, and motor vehicles. It was assumed that all project-generated emissions, including all mobile source emissions, would occur within the MDAQMD jurisdictional boundaries.

Table 12
Estimated Project-Generated Maximum Daily Operational Greenhouse Gas Emissions

Emission Source	CO_2 (pounds/day)	CH_4 (pounds/day)	N_2O (pounds/day)	CO_2E (pounds/day)
Area	0.62	0.00	0.00	0.65
Energy (natural gas)	785.16	0.02	0.01	789.94
Mobile (employee trips)	7,613.00	0.41	0.00	7,621.50
Mobile (truck trips)	226,805.23	1.67	0.00	226,831.73
Total	**235,204.01**	**2.10**	**0.01**	**235,243.82**
MDAQMD threshold	-	-	-	*548,000*
Threshold exceeded?	-	-	-	No

Notes: See Attachment A for detailed results.
Area sources = landscape maintenance equipment. Energy sources = natural gas. Mobile sources = motor vehicles.
CalEEMod does not estimate daily emissions (winter or summer) associated with electricity consumption, solid waste, or water/wastewater.
MT = metric tons; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent; - = not applicable

As shown in Table 12, estimated total maximum daily operational project-generated GHG emissions would be approximately 235,244 CO_2E pounds per day would not exceed the significance threshold established by the MDAQMD of 548,000 CO_2E pounds per day.

Table 13 presents estimated project-generated annual GHG emissions from area sources, energy sources, motor vehicles, solid waste generation, water consumption, and wastewater treatment.

Table 13
Estimated Project-Generated Annual Operational GHG Emissions

Emission Source	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	CO_2E (MT/year)	CO_2E (tons/year)
Area	0.05	0.00	0.00	0.05	0.06
Energy (natural gas and electricity)	1,320.16	0.07	0.02	1,326.79	1,462.54
Mobile (employee trips)	1,137.20	0.07	0.00	1,138.60	1,255.09
Mobile (truck trips)	37,394.41	0.21	0.00	37,398.78	41,225.10
Solid waste	259.67	15.35	0.00	581.94	641.48
Water supply and wastewater	1,035.16	10.31	0.25	1,330.00	1,466.07
Total	**41,146.65**	**26.01**	**0.27**	**41,776.16**	**46,050.34**
MDAQMD threshold	-	-	-	-	100,000
Threshold exceeded?	-	-	-	-	No

Source: MDAQMD 2016. Dudek 2016
Notes: Area sources = landscape maintenance equipment. Energy sources = natural gas and electricity. Mobile sources = motor vehicles. Solid waste = solid waste landfill off-gassing. Water supply and wastewater = supply, conveyance, treatment, and distribution of water and wastewater.
MT = metric tons; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent; - = not applicable

As shown in Table 13, estimated annual project-generated GHG emissions would be approximately 46,050 CO_2E tons per year as a result of project operations, which does not exceed the significance threshold established by the MDAQMD of 100,000 CO_2E tons per year. In addition, the project would include various sustainable building strategies as project design features, as discussed in Section 2. With implementation of the project's design features, which include energy efficiency strategies and water use reduction features, GHG emissions would be further reduced.

8 DISCLOSURE OF EMISSIONS IN THE SCAQMD

For disclosure purposes, this section includes the air quality and GHG emissions that would be generated by the project in the SCAQMD.

Thresholds of Significance

Air Quality

The SCAQMD has established emissions-based significance thresholds for evaluating the significance of a proposed project's emissions on air quality, which were approved by the Governing Board in the SCAQMD's *CEQA Air Quality Handbook* (SCAQMD 1993). For informational purposes, the SCAQMD VOC (ROG), NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ operational (not construction) thresholds are shown in Table 14.

Table 14
SCAQMD Air Quality Significance Thresholds

Pollutant	Daily Threshold (pounds per day)
VOC	55
NO_x	55
CO	550
SO_x	150
PM_{10}	150
$PM_{2.5}$	55

Source: SCAQMD 2015

Greenhouse Gas Emissions

The SCAQMD has not adopted recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects. In October 2008, SCAQMD presented to the Governing Board the *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008). The guidance document was not adopted or approved by the Governing Board. The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. The most recent working group meeting on September 28, 2010 (SCAQMD 2010), proposed a tiered threshold approach. Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. Under Tier 3, if a project's emissions are under one of the following screening thresholds, then the project is less than significant: (a) All land use types: 3,000 MT CO_2E per year, (b) Based on land use type: residential: 3,500 MT CO_2E per year; commercial: 1,400 MT CO_2E per year; industrial: 10,000 MT CO_2E per year; or mixed use: 3,000 MT CO_2E per year. The SCAQMD recommends that a project's construction emissions are averaged over 30 years and are added to a project's operational emissions.

Operational Emissions Modeling Methodology and Assumptions

Emissions associated with portions of project-generated truck trips that would occur within the adjacent SCAQMD were estimated for disclosure. The percentage of emissions allocated within each air district was determined by calculating the portion for each inbound and outbound trip length that was located within each respective air district's boundaries. The vehicle miles traveled (VMT) assumptions developed for the purposes of estimating emissions in other air

districts (i.e., SCAQMD in addition to the MDAQMD), and thus other air basins (i.e., SCAB in addition to the MDAB), are presented below.

- Northern direction – 100% truck VMT within the MDAQMD
- Southern direction – 29% truck VMT within the MDAQMD and 71% truck VMT within the SCAQMD
- Eastern direction – 100% truck VMT within the MDAQMD
- Western direction – 20% truck VMT within the MDAQMD and 80% truck VMT within the SCAQMD

To estimate the emissions by air district, the estimated unmitigated project-generated mobile source truck emissions were apportioned to each air district according to the relative average percent truck VMT outlined in the bullet points above. That is, the unmitigated truck emissions were multiplied by the percent truck VMT that would occur in the air district divided by the total weekday VMT associated with the project. The emissions occurring in the MDAQMD would occur in the MDAB. The emissions occurring in the SCAQMD would occur in the SCAB. Based on the distribution of truck trips and trip distances (Urban Crossroads 2015, Noethen, pers. comm. 2016)), it was estimated that 64% of the project's emissions would occur within the MDAQMD and 36% would occur within the SCAQMD.

Criteria Air Pollutant Emissions

As explained above, truck travel-generated criteria air pollutant emissions from the project were divided between air districts for disclosure purposes. Table 15 presents a summary of estimated maximum daily operational mobile source truck trip emissions for each air district.

Table 15
Estimated Project-Generated Maximum Daily Operational Mobile Source - Truck Trips
Criteria Air Pollutant Emissions by Air District

Mobile Source – Truck Trips Location	VOC (pounds/day)	NO_x (pounds/day)	CO (pounds/day)	SO_x (pounds/day)	PM_{10} (pounds/day)	$PM_{2.5}$ (pounds/day)
MDAQMD	21.47	403.70	254.45	1.47	58.28	23.34
SCAQMD	12.07	227.08	143.13	0.86	32.78	13.13

Notes: See Attachment A for detailed results.
The values shown for mobile, energy and area sources are the maximum summer or winter daily emissions results from CalEEMod.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
Based on the distribution of truck trips and trip distances, it was estimated that 64% of the project's emissions would occur within the MDAQMD and 36% would occur within the SCAQMD.

Table 16 presents a summary of estimated annual operational mobile source truck trip emissions for each air district for disclosure purposes.

Table 16
Estimated Project-Generated Annual Operational Mobile Source - Truck Trips
Criteria Air Pollutant Emissions by Air District

Mobile Source – Truck Trips Location	VOC (tons/year)	NO_x (tons/year)	CO (tons/year)	SO_x (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)
MDAQMD	3.96	74.63	48.24	0.27	10.46	4.21
SCAQMD	2.23	41.98	27.14	0.15	5.89	2.37

Notes: See Attachment A for detailed results.
The values shown for mobile, energy and area sources are the maximum summer or winter daily emissions results from CalEEMod.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
Based on the distribution of truck trips and trip distances, it was estimated that 64% of the project's emissions would occur within the MDAQMD and 36% would occur within the SCAQMD.

Greenhouse Gas Emissions

It is not appropriate to divide GHG emissions by air district or air basin because GHG emissions have a global effect on climate change. Nonetheless, truck emissions are presented by air district in this memorandum for disclosure purposes. To estimate the GHG emissions by air district, the unmitigated mobile source truck emissions shown in Table 17 were apportioned to each air district according to the relative average weekday truck VMT discussed above. For disclosure, Table 17 presents a summary of estimated annual operational mobile source truck trip GHG emissions for each air district.

Table 17
Estimated Project-Generated Annual Operational Mobile Source - Truck Trips
Greenhouse Gas Emissions by Air District

Mobile Source – Truck Trips Location	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	CO_2E (MT/year)	CO_2E (tons/year)
MDAQMD	23,932.42	0.13	0.00	23,935.22	26,384.06
SCAQMD	13,461.99	0.08	0.00	13,463.56	—

Notes: See Attachment A for detailed results.
MT = metric tons; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent
Based on the distribution of truck trips and trip distances, it was estimated that 64% of the project's emissions would occur within the MDAQMD and 36% would occur within the SCAQMD.

9 REFERENCES

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ATTACHMENT A

CalEEMod Output –
Operational Emissions
Winter, Summer, and Annual Output

CalEEMod Version: CalEEMod.2013.2.2 Date: 9/27/2016 9:44 AM

Project Jupiter - Truck Trips

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Per Trip Generation Memo (Urban Crossroads) truck trip rate of 0.64. Assumed 100% Primary Trips. Updated trip length to 97 miles.

Vechicle Emission Factors - Update fleet mix for trucks.

Vechicle Emission Factors - Updated fleet mix for trucks.

Vechicle Emission Factors - Updated fleet mix for trucks.

Table Name	Column Name	Default Value	New Value
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tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.08	0.60
tblVehicleEF	HHD	0.08	0.60
tblVehicleEF	HHD	0.08	0.60
tblVehicleEF	LDA	0.44	0.00
tblVehicleEF	LDA	0.44	0.00
tblVehicleEF	LDA	0.44	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD2	7.6700e-003	0.11
tblVehicleEF	LHD2	7.6700e-003	0.11
tblVehicleEF	LHD2	7.6700e-003	0.11
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MH	3.6100e-003	0.00

tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.18
tblVehicleEF	MHD	6.7260e-003	0.18
tblVehicleEF	MHD	6.7260e-003	0.18
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleTrips	CC_TL	7.30	97.00
tblVehicleTrips	CNW_TL	7.30	97.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	9.50	97.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	0.64
tblVehicleTrips	SU_TR	2.59	0.64
tblVehicleTrips	WD_TR	2.59	0.64

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mobile	6.1891	116.6099	75.3813	0.4161	13.1916	3.1547	16.3463	3.6770	2.9022	6.5792	0.0000	37,394.4076	37,394.4076	0.2084	0.0000	37,398.7835

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mobile	6.1891	116.6099	75.3813	0.4161	13.1916	3.1547	16.3463	3.6770	2.9022	6.5792	0.0000	37,394.4076	37,394.4076	0.2084	0.0000	37,398.7835

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.14**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.1891	116.6099	75.3813	0.4161	13.1916	3.1547	16.3463	3.6770	2.9022	6.5792	0.0000	37,394.4076	37,394.4076	0.2084	0.0000	37,398.7835
Unmitigated	6.1891	116.6099	75.3813	0.4161	13.1916	3.1547	16.3463	3.6770	2.9022	6.5792	0.0000	37,394.4076	37,394.4076	0.2084	0.0000	37,398.7835

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	870.96	870.96	870.96	30,751,969	30,751,969
Total	870.96	870.96	870.96	30,751,969	30,751,969

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	97.00	97.00	97.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.110000	0.110000	0.177000	0.603000	0.000000	0.000000	0.000000	0.000000	0.000000

CalEEMod Version: CalEEMod.2013.2.2 Date: 9/27/2016 9:47 AM

Project Jupiter - Truck Trips

San Bernardino-Mojave Desert County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Per Trip Generation Memo (Urban Crossroads) truck trip rate of 0.64. Assumed 100% Primary Trips. Updated trip length to 97 miles.

Vechicle Emission Factors - Update fleet mix for trucks.

Vechicle Emission Factors - Updated fleet mix for trucks.

Vechicle Emission Factors - Updated fleet mix for trucks.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,360,880.00	1,360,875.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.08	0.60
tblVehicleEF	HHD	0.08	0.60
tblVehicleEF	HHD	0.08	0.60
tblVehicleEF	LDA	0.44	0.00
tblVehicleEF	LDA	0.44	0.00
tblVehicleEF	LDA	0.44	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD2	7.6700e-003	0.11
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tblVehicleEF	LHD2	7.6700e-003	0.11
tblVehicleEF	MCY	0.01	0.00
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tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	3.6100e-003	0.00
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tblVehicleTrips	ST_TR	2.59	0.64
tblVehicleTrips	SU_TR	2.59	0.64
tblVehicleTrips	WD_TR	2.59	0.64

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	32.6824	600.6158	379.4570	2.2893	73.7056	17.3511	91.0567	20.5038	15.9623	36.4662		226,805.2316	226,805.2316	1.2617		226,831.7276

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	32.6824	600.6158	379.4570	2.2893	73.7056	17.3511	91.0567	20.5038	15.9623	36.4662		226,805.2316	226,805.2316	1.2617		226,831.7276

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	32.6824	600.6158	379.4570	2.2893	73.7056	17.3511	91.0567	20.5038	15.9623	36.4662		226,805.2316	226,805.2316	1.2617		226,831.7276
Unmitigated	32.6824	600.6158	379.4570	2.2893	73.7056	17.3511	91.0567	20.5038	15.9623	36.4662		226,805.2316	226,805.2316	1.2617		226,831.7276

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	870.96	870.96	870.96	30,751,969	30,751,969
Total	870.96	870.96	870.96	30,751,969	30,751,969

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	97.00	97.00	97.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.110000	0.110000	0.177000	0.603000	0.000000	0.000000	0.000000	0.000000	0.000000

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Project Jupiter - Truck Trips

San Bernardino-Mojave Desert County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

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tblProjectCharacteristics	OperationalYear	2014	2017
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tblVehicleEF	HHD	0.08	0.60
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tblVehicleEF	LDT1	0.07	0.00
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tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LDT2	0.18	0.00
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD1	0.05	0.11
tblVehicleEF	LHD2	7.6700e-003	0.11
tblVehicleEF	LHD2	7.6700e-003	0.11
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tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MDV	0.16	0.00
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tblVehicleTrips	CNW_TL	7.30	97.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	9.50	97.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	0.64
tblVehicleTrips	SU_TR	2.59	0.64
tblVehicleTrips	WD_TR	2.59	0.64

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	33.5438	630.7785	397.5820	2.2882	73.7056	17.3581	91.0638	20.5038	15.9688	36.4726		226,685.1401	226,685.1401	1.2661		226,711.7284

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	33.5438	630.7785	397.5820	2.2882	73.7056	17.3581	91.0638	20.5038	15.9688	36.4726		226,685.1401	226,685.1401	1.2661		226,711.7284

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	33.5438	630.7785	397.5820	2.2882	73.7056	17.3581	91.0638	20.5038	15.9688	36.4726		226,685.1401	226,685.1401	1.2661		226,711.7284
Unmitigated	33.5438	630.7785	397.5820	2.2882	73.7056	17.3581	91.0638	20.5038	15.9688	36.4726		226,685.1401	226,685.1401	1.2661		226,711.7284

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	870.96	870.96	870.96	30,751,969	30,751,969
Total	870.96	870.96	870.96	30,751,969	30,751,969

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	97.00	97.00	97.00	100.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.000000	0.000000	0.000000	0.000000	0.110000	0.110000	0.177000	0.603000	0.000000	0.000000	0.000000	0.000000	0.000000

CalEEMod Version: CalEEMod.2013.2.2 Date: 9/27/2016 9:59 AM

Project Jupiter - Employee Trips

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Assumed 100% Primary Employee Trips and 100% Commercial-Work Trips. Trip rate updated to 1.04.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,360,880.00	1,360,875.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MH	3.6100e-003	0.00

tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	1.04
tblVehicleTrips	SU_TR	2.59	1.04
tblVehicleTrips	WD_TR	2.59	1.04

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mobile	0.6126	0.9329	8.9014	0.0159	1.4013	8.6500e-003	1.4100	0.3720	7.9500e-003	0.3800	0.0000	1,137.1984	1,137.1984	0.0668	0.0000	1,138.6011

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mobile	0.6126	0.9329	8.9014	0.0159	1.4013	8.6500e-003	1.4100	0.3720	7.9500e-003	0.3800	0.0000	1,137.1984	1,137.1984	0.0668	0.0000	1,138.6011

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.14**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6126	0.9329	8.9014	0.0159	1.4013	8.6500e-003	1.4100	0.3720	7.9500e-003	0.3800	0.0000	1,137.1984	1,137.1984	0.0668	0.0000	1,138.6011
Unmitigated	0.6126	0.9329	8.9014	0.0159	1.4013	8.6500e-003	1.4100	0.3720	7.9500e-003	0.3800	0.0000	1,137.1984	1,137.1984	0.0668	0.0000	1,138.6011

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,415.32	1,415.32	1415.32	3,760,776	3,760,776
Total	1,415.32	1,415.32	1,415.32	3,760,776	3,760,776

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.700000	0.060000	0.240000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

CalEEMod Version: CalEEMod.2013.2.2 Date: 9/27/2016 10:06 AM

Project Jupiter - Employee Trips

San Bernardino-Mojave Desert County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Assumed 100% Primary Employee Trips and 100% Commercial-Work Trips. Trip rate updated to 1.04.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,360,880.00	1,360,875.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MH	3.6100e-003	0.00

tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	1.04
tblVehicleTrips	SU_TR	2.59	1.04
tblVehicleTrips	WD_TR	2.59	1.04

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	3.8745	4.6316	54.6368	0.0964	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		7,612.9959	7,612.9959	0.4050		7,621.5013

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	3.8745	4.6316	54.6368	0.0964	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		7,612.9959	7,612.9959	0.4050		7,621.5013

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.8745	4.6316	54.6368	0.0964	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		7,612.9959	7,612.9959	0.4050		7,621.5013
Unmitigated	3.8745	4.6316	54.6368	0.0964	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		7,612.9959	7,612.9959	0.4050		7,621.5013

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,415.32	1,415.32	1415.32	3,760,776	3,760,776
Total	1,415.32	1,415.32	1,415.32	3,760,776	3,760,776

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.700000	0.060000	0.240000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

CalEEMod Version: CalEEMod.2013.2.2 Date: 9/27/2016 10:07 AM

Project Jupiter - Employee Trips

San Bernardino-Mojave Desert County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Assumed 100% Primary Employee Trips and 100% Commercial-Work Trips. Trip rate updated to 1.04.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Vechicle Emission Factors - Resdistributed vehicle percentages into LDA, LDT1, and LDT2.

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,360,880.00	1,360,875.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	HHD	0.08	0.00
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDA	0.44	0.70
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LDT2	0.18	0.24
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD1	0.05	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	LHD2	7.6700e-003	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MCY	0.01	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MDV	0.16	0.00
tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MH	3.6100e-003	0.00

tblVehicleEF	MH	3.6100e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	MHD	6.7260e-003	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	OBUS	8.4600e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	SBUS	5.9100e-004	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleEF	UBUS	1.1210e-003	0.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	2.59	1.04
tblVehicleTrips	SU_TR	2.59	1.04
tblVehicleTrips	WD_TR	2.59	1.04

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	3.4420	4.8239	45.3704	0.0845	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		6,685.2866	6,685.2866	0.4050		6,693.7920

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mobile	3.4420	4.8239	45.3704	0.0845	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		6,685.2866	6,685.2866	0.4050		6,693.7920

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4420	4.8239	45.3704	0.0845	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		6,685.2866	6,685.2866	0.4050		6,693.7920
Unmitigated	3.4420	4.8239	45.3704	0.0845	7.8492	0.0476	7.8968	2.0807	0.0437	2.1245		6,685.2866	6,685.2866	0.4050		6,693.7920

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,415.32	1,415.32	1415.32	3,760,776	3,760,776
Total	1,415.32	1,415.32	1,415.32	3,760,776	3,760,776

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.700000	0.060000	0.240000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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Project Jupiter - Energy and Area

San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	503.21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Update CO2 intensity for RPS.

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Updated trip rate to 0 (energy and area run).

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Area Coating - Updated arch coatings NonRes interior and exterior square footage. Comply with MDAQMD Rule 1113 (flat coatings - 50 g/L, nonflat coatings - 100 g/L, nonflat high-gloss coatings - 150 g/L)

Energy Use - Updated electricity and natural gas to 2013 Title 24.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_Nonresidential_Exterior	1635945	196702
tblAreaCoating	Area_Nonresidential_Interior	4907834	2041313
tblEnergyUse	T24E	0.45	0.35
tblEnergyUse	T24NG	2.11	1.76
tblLandUse	LandUseSquareFeet	1,360,880.00	1,360,875.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	503.21
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	18.6398	2.5000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.4000e-004	0.0000	0.0532
Energy	0.0131	0.1194	0.1003	7.2000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	1,320.1559	1,320.1559	0.0711	0.0166	1,326.7865
Waste						0.0000	0.0000		0.0000	0.0000	259.6721	0.0000	259.6721	15.3462	0.0000	581.9420
Water						0.0000	0.0000		0.0000	0.0000	99.8409	935.3215	1,035.1624	10.3085	0.2533	1,330.1600
Total	**18.6529**	**0.1197**	**0.1266**	**7.2000e-004**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**359.5130**	**2,255.5276**	**2,615.0407**	**25.7259**	**0.2699**	**3,238.9417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	18.6398	2.5000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.4000e-004	0.0000	0.0532
Energy	0.0131	0.1194	0.1003	7.2000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	1,320.1559	1,320.1559	0.0711	0.0166	1,326.7865
Waste						0.0000	0.0000		0.0000	0.0000	259.6721	0.0000	259.6721	15.3462	0.0000	581.9420
Water						0.0000	0.0000		0.0000	0.0000	99.8409	935.3215	1,035.1624	10.3067	0.2529	1,330.0007
Total	**18.6529**	**0.1197**	**0.1266**	**7.2000e-004**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**0.0000**	**9.1700e-003**	**9.1700e-003**	**359.5130**	**2,255.5276**	**2,615.0407**	**25.7241**	**0.2695**	**3,238.7824**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.14**	**0.00**

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,190.1634	1,190.1634	0.0686	0.0142	1,196.0030
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,190.1634	1,190.1634	0.0686	0.0142	1,196.0030
NaturalGas Mitigated	0.0131	0.1194	0.1003	7.2000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	129.9924	129.9924	2.4900e-003	2.3800e-003	130.7836
NaturalGas Unmitigated	0.0131	0.1194	0.1003	7.2000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	129.9924	129.9924	2.4900e-003	2.3800e-003	130.7836

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	2.43597e+006	0.0131	0.1194	0.1003	7.2000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	129.9924	129.9924	2.4900e-003	2.3800e-003	130.7836
Total		**0.0131**	**0.1194**	**0.1003**	**7.2000e-004**		**9.0800e-003**	**9.0800e-003**		**9.0800e-003**	**9.0800e-003**	**0.0000**	**129.9924**	**129.9924**	**2.4900e-003**	**2.3800e-003**	**130.7836**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	2.43597e+006	0.0131	0.1194	0.1003	7.2000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	129.9924	129.9924	2.4900e-003	2.3800e-003	130.7836
Total		**0.0131**	**0.1194**	**0.1003**	**7.2000e-004**		**9.0800e-003**	**9.0800e-003**		**9.0800e-003**	**9.0800e-003**	**0.0000**	**129.9924**	**129.9924**	**2.4900e-003**	**2.3800e-003**	**130.7836**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1.24049e+006	283.1451	0.0163	3.3800e-003	284.5343
Unrefrigerated Warehouse-No	3.97376e+006	907.0184	0.0523	0.0108	911.4687
Total		**1,190.1634**	**0.0686**	**0.0142**	**1,196.0030**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1.24049e+006	283.1451	0.0163	3.3800e-003	284.5343
Unrefrigerated Warehouse-No	3.97376e+006	907.0184	0.0523	0.0108	911.4687
Total		**1,190.1634**	**0.0686**	**0.0142**	**1,196.0030**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	18.6398	2.5000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.4000e-004	0.0000	0.0532
Unmitigated	18.6398	2.5000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.4000e-004	0.0000	0.0532

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5187					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	18.1186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5400e-003	2.5000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.4000e-004	0.0000	0.0532
Total	**18.6398**	**2.5000e-004**	**0.0263**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0503**	**0.0503**	**1.4000e-004**	**0.0000**	**0.0532**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5187					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	18.1186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5400e-003	2.5000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.4000e-004	0.0000	0.0532
Total	**18.6398**	**2.5000e-004**	**0.0263**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0503**	**0.0503**	**1.4000e-004**	**0.0000**	**0.0532**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,035.1624	10.3067	0.2529	1,330.0007
Unmitigated	1,035.1624	10.3085	0.2533	1,330.1600

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	314.704 / 0	1,035.1624	10.3085	0.2533	1,330.1600
Total		**1,035.1624**	**10.3085**	**0.2533**	**1,330.1600**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	314.704 / 0	1,035.1624	10.3067	0.2529	1,330.0007
Total		**1,035.1624**	**10.3067**	**0.2529**	**1,330.0007**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	259.6721	15.3462	0.0000	581.9420
Unmitigated	259.6721	15.3462	0.0000	581.9420

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	1279.23	259.6721	15.3462	0.0000	581.9420
Total		**259.6721**	**15.3462**	**0.0000**	**581.9420**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	1279.23	259.6721	15.3462	0.0000	581.9420
Total		**259.6721**	**15.3462**	**0.0000**	**581.9420**

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Project Jupiter - Energy and Area

San Bernardino-Mojave Desert County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	503.21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Update CO2 intensity for RPS.

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Updated trip rate to 0 (energy and area run).

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Area Coating - Updated arch coatings NonRes interior and exterior square footage. Comply with MDAQMD Rule 1113 (flat coatings - 50 g/L, nonflat coatings - 100 g/L, nonflat high-gloss coatings - 150 g/L)

Energy Use - Updated electricity and natural gas to 2013 Title 24.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_Nonresidential_Exterior	1635945	196702
tblAreaCoating	Area_Nonresidential_Interior	4907834	2041313
tblEnergyUse	T24E	0.45	0.35
tblEnergyUse	T24NG	2.11	1.76
tblLandUse	LandUseSquareFeet	1,360,880.00	1,360,875.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	503.21
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Energy	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Energy	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407

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

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407
NaturalGas Unmitigated	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	6673.88	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407
Total		**0.0720**	**0.6543**	**0.5496**	**3.9300e-003**		**0.0497**	**0.0497**		**0.0497**	**0.0497**		**785.1624**	**785.1624**	**0.0151**	**0.0144**	**789.9407**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	6.67388	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0720**	**0.6543**	**0.5496**	**3.9300e-003**		**0.0497**	**0.0497**		**0.0497**	**0.0497**		**785.1624**	**785.1624**	**0.0151**	**0.0144**	**789.9407**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Unmitigated	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.8420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	99.2799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Total	**102.1501**	**2.7700e-003**	**0.2927**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**		**0.6157**	**0.6157**	**1.7100e-003**		**0.6517**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.8420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	99.2799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Total	**102.1501**	**2.7700e-003**	**0.2927**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**		**0.6157**	**0.6157**	**1.7100e-003**		**0.6517**

CalEEMod Version: CalEEMod.2013.2.2 Date: 9/12/2016 9:52 AM

Project Jupiter - Energy and Area

San Bernardino-Mojave Desert County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1,360.88	1000sqft	31.24	1,360,875.00	0
Other Non-Asphalt Surfaces	42.90	Acre	42.90	1,868,724.00	0
Parking Lot	1,409.65	1000sqft	32.36	1,409,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	503.21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Update CO2 intensity for RPS.

Land Use - Development of a 1,360,875 sf warehouse on a 106.5-acre site.

Vehicle Trips - Updated trip rate to 0 (energy and area run).

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Area Coating - Updated arch coatings NonRes interior and exterior square footage. Comply with MDAQMD Rule 1113 (flat coatings - 50 g/L, nonflat coatings - 100 g/L, nonflat high-gloss coatings - 150 g/L)

Energy Use - Updated electricity and natural gas to 2013 Title 24.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_Nonresidential_Exterior	1635945	196702
tblAreaCoating	Area_Nonresidential_Interior	4907834	2041313
tblEnergyUse	T24E	0.45	0.35
tblEnergyUse	T24NG	2.11	1.76
tblLandUse	LandUseSquareFeet	1,360,880.00	1,360,875.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	503.21
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	ST_TR	2.59	0.00
tblVehicleTrips	SU_TR	2.59	0.00
tblVehicleTrips	WD_TR	2.59	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Energy	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Energy	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407

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

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407
NaturalGas Unmitigated	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	6673.88	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407
Total		**0.0720**	**0.6543**	**0.5496**	**3.9300e-003**		**0.0497**	**0.0497**		**0.0497**	**0.0497**		**785.1624**	**785.1624**	**0.0151**	**0.0144**	**789.9407**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	6.67388	0.0720	0.6543	0.5496	3.9300e-003		0.0497	0.0497		0.0497	0.0497		785.1624	785.1624	0.0151	0.0144	789.9407
Total		**0.0720**	**0.6543**	**0.5496**	**3.9300e-003**		**0.0497**	**0.0497**		**0.0497**	**0.0497**		**785.1624**	**785.1624**	**0.0151**	**0.0144**	**789.9407**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Unmitigated	102.1502	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.8420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	99.2799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Total	**102.1501**	**2.7700e-003**	**0.2927**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**		**0.6157**	**0.6157**	**1.7100e-003**		**0.6517**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.8420					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	99.2799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.2927	2.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003		0.6157	0.6157	1.7100e-003		0.6517
Total	**102.1501**	**2.7700e-003**	**0.2927**	**2.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**		**0.6157**	**0.6157**	**1.7100e-003**		**0.6517**