APPENDIX E

AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT

Air Assessment Technical Appendices
Are Included on the Draft EIR CD
And
On the City of Santa Cruz Website

LA BAHIA HOTEL – AIR QUALITY AND GREENHOUSE GAS EMISSIONS ASSESSMENT SANTA CRUZ, CALIFORNIA

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Introduction

This report addresses air quality and greenhouse gas (GHG) emissions associated with the proposed La Bahia Hotel development project in Santa Cruz, California. The project would allow for the development of a 165-room hotel on an approximate 1.4-acre site. The site is currently developed with a 44-unit apartment complex that would be demolished as part of the project, except for preservation and rehabilitation of the existing bell tower and a portion of the southeastern building. The project would include an underground parking garage, a spa, and other amenities.

The methodologies for evaluating air quality and GHG emission impacts from this project are contained in the Monterey Bay Unified Air Pollution Control District (MBUAPCD) CEQA Air Quality Guidelines that were published in 2008.[1] This report addresses air quality and greenhouse gas emissions environmental checklist questions for compliance with CEQA, assuming the ultimate development of the project site as described above. As discussed in the La Bahia Hotel Initial Study, potential community health risk impacts from diesel-powered equipment used in project construction would be less than significant. Accordingly, this report does not further analyze community health risk impacts associated with construction of the proposed project. The project does not propose to introduce new sensitive receptors or new sources of toxic air contaminants (TACs) to the area. Therefore, TACs impacts associated with operation of the project do not apply and were not addressed further.

Setting

The project is located in the south central portion of Santa Cruz County, which is in the North Central Coast Air Basin. Ambient air quality standards have been established at both the State and federal level. The Air Basin meets all ambient air quality standards with the exception of ground-level ozone and respirable particulate matter (PM_{10}). High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the MBUAPCD's attempt to reduce ozone levels. High ozone levels aggravate respiratory and cardiovascular diseases, reduce lung function, and increase coughing and chest discomfort. Particulate matter is another problematic air pollutant of the Air Basin. Elevated concentrations of PM_{10} are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

The MBUAPCD is the regional agency tasked with managing air quality in the region. CARB (a part of the California Environmental Protection Agency) oversees regional air district activities and regulates air quality at the State level. The MBUAPCD has published CEQA Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[2]

National and State Ambient Air Quality Standards

The ambient air quality in a given area depends on the quantities of pollutants emitted within the area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, as well as the surrounding topography of the air basin. Air quality is described by the concentration of

[1] Monterey Bay Unified Air Pollution Control District, 2008. *CEQA Air Quality Guidelines*.
[2] ibid.

various pollutants in the atmosphere. Units of concentration are generally expressed in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

As required by the Federal Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter, including respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$), sulfur oxides, and lead. Pursuant to the California Clean Air Act, the State of California has established the California Ambient Air Quality Standards (CAAQS). Both State and Federal standards are summarized in Table 1. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare. CAAQS are generally the same or more stringent than NAAQS.

Air Quality Monitoring Data

The significance of a pollutant concentration is determined by comparing the concentration to an appropriate ambient air quality standard. The standards represent the allowable pollutant concentrations designed to ensure that the public health and welfare are protected, while including a reasonable margin of safety to protect the more sensitive individuals in the population. MBUAPCD monitors air quality at multiple locations throughout the Air Basin. There is a monitoring station in Santa Cruz located at 2544 Soquel Avenue. Summarized air pollutant data for this station are provided in Table 2. This table shows the highest air pollutant concentrations measured at the station over the three year period from 2010 through 2012.

Attainment Status

Areas with air quality that exceed adopted air quality standards are designated as "nonattainment" areas for the relevant air pollutants. Nonattainment areas are sometimes further classified by degree (marginal, moderate, serious, severe, and extreme for ozone, and moderate and serious for carbon monoxide and PM_{10}) or status ("nonattainment-transitional"). Areas that comply with air quality standards are designated as "attainment" areas for the relevant air pollutants. "Unclassified" areas are those with insufficient air quality monitoring data to support a designation of attainment or nonattainment, but are generally presumed to comply with the ambient air quality standard. State Implementation Plans must be prepared by States for areas designated as federal nonattainment areas to demonstrate how the area will come into attainment of the exceeded federal ambient air quality standard.

The Air Basin as a whole is considered by U.S. EPA as attainment or unclassified for all regulated criteria pollutants. At the State level, the region is designated as nonattainment for ozone and PM_{10}. The region is attainment for all other pollutants regulated under the CAAQS.

Table 1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards [(a)]	
			Primary [(b,c)]	Secondary [(b,d)]
Ozone (O_3)	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	Same as primary
	1-hour	0.09 ppm (180 µg/m^3)	—[e]	Same as primary
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
Nitrogen Dioxide (NO_2)	Annual	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as primary
	1-hour	0.18 ppm (339 µg/m^3)	0.100 ppm[f] (188 µg/m^3)	—
Sulfur Dioxide (SO_2)	Annual	—	—[g]	—
	24-hour	0.04 ppm (105 µg/m^3)	—[g]	—
	3-hour	—	—	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	0.075 ppm[g] (196 µg/m^3)	—
PM_{10}	Annual	20 µg/m^3	—	Same as primary
	24-hour	50 µg/m^3	150 µg/m^3	Same as primary
$PM_{2.5}$	Annual	12 µg/m^3	12 µg/m^{3h}	
	24-hour	No Separate State Standard	35 µg/m^3	
Lead	Calendar quarter	—	1.5 µg/m^3	Same as primary
	30-day average	1.5 µg/m^3	—	—

Notes: ppm = parts per million
µg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

(a) California standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are not to be exceeded. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

(b) Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.

(c) Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation Plan is approved by the EPA.

(d) Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(e) The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005. A new 8-hour standard was established in May 2008.

(f) The form of the 1-hour NO_2 standard is the 3-year average of the 98th percentile of the daily maximum 1-hour average concentration.

(g) On June 2, 2010 the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of the 1-hour daily maximum. The EPA also revoked both the existing 24-hour and annual average SO_2 standards.

(h) On December 14, 2012 the U.S. EPA strengthened the annual NAAQS for $PM_{2.5}$ to 12.0 µg/m^3

Table 2. Highest Measured Air Pollutant Concentrations in Santa Cruz (Soquel Avenue)

Pollutant	Average Time	Measured Air Pollutant Levels		
		2010	2011	2012
Ozone (O_3)	1-Hour	0.077 ppm	0.071 ppm	0.071 ppm
	8-Hour	0.059 ppm	0.065 ppm	0.053 ppm
Carbon Monoxide (CO) [1]	8-Hour	0.64 ppm	ND	ND
Nitrogen Dioxide (NO_2) [1]	1-Hour	0.028 ppm	ND	ND
	Annual	ND	ND	ND
Respirable Particulate Matter (PM_{10})	24-Hour	31.0 μg/m^3	21.0 μg/m^3	ND
	Annual	14.6 μg/m^3	5.3 μg/m^3	ND
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	32.8 μg/m^3	17.2 μg/m^3	13.8 μg/m^3
	Annual	6.5 μg/m^3	6.5 μg/m^3	5.8 μg/m^3

Source: CARB, iADAM Air Quality Statistics, see http://www.arb.ca.gov/adam/.

Note: ppm = parts per million and μg/m^3 = micrograms per cubic meter
Values reported in bold exceed ambient air quality standard
ND = No Data available.
[1] CO and NO_2 values reported from the Santa Cruz Davenport monitoring station.

Greenhouse Gases

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called greenhouse gases (GHG). Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect. The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO_2), primarily a byproduct of fuel combustion;
- Nitrous oxide (N_2O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH_4), commonly created by off-gassing from agricultural practices (e.g. livestock), wastewater treatment and landfill operations;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants and cleaning solvents, but their production has been mostly prohibited by international treaty;

- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

These gases vary considerably in terms of Global Warming Potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each GHG is measured relative to CO_2. Accordingly, GHG emissions are typically measured and reported in terms of CO_2 equivalent (CO_2e). For instance, SF_6 is 22,800 times more intense in terms of global climate change contribution than CO_2.

Project Impacts

Thresholds of Significance

The CEQA Guidelines prepared by the Natural Resources Agency were the basis of identifying potentially significant air quality and GHG impacts with implementation of the proposed project. The MBUAPCD provides guidance in assessing impacts to lead agencies in the Bay Area. In 2008, MBUAPCD adopted new CEQA Air Quality Guidelines that included thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which MBUAPCD believed air pollution emissions would cause significant environmental impacts under CEQA and were in the Air District's CEQA Guidelines.[3] The significance thresholds identified by MBUAPCD and used in this analysis are summarized in Table 3.

Table 3. Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds
	Maximum Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)
Criteria Air Pollutants		
VOC	Not applicable	137
NO_x	Not applicable	137
CO	Not applicable	550
PM_{10}	82	82
SO_2	Not applicable	150
Greenhouse Gas Emissions		
GHG Annual Emissions	2,000 metric tons[1]	

Note: VOC = volatile organic compound, NO_X = nitrogen oxides, CO = carbon monoxide, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, SO_2 = sulfur dioxide; and GHG = greenhouse gas.

[1]Of several potential quantified thresholds for annual GHG emissions from land-use development projects, the 2,000 metric tons CO_2e/year metric was the only one recommended for further review in a February 2013 MBUAPCD document.

[3] ibid.

Impact: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The Air Basin is considered a non-attainment area for ground-level ozone and particulate matter with a diameter of less than 10 micrometers (PM_{10}) at the State level. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, MBUAPCD has established thresholds of significance for air pollutants. These thresholds are for ozone precursor pollutants (VOC and NO_X), $PM_{10,}$ CO and SO_2 and apply to construction period and operational period impacts. The California Emissions Estimator Model, Version 2013.2.2 (CalEEMod) was used to predict project operational and construction emissions. For the purposes of this assessment, CalEEMod results for ROG (reactive organic gases) were assumed to be VOC. These terms can be used interchangeably.

Construction Period Emissions

Emissions during construction were predicted using the CalEEMod model. Construction of the project is anticipated to begin in May 2015. A project-specific construction phasing schedule and anticipated construction equipment list for use were provided by the project applicant. Modeling also included truck trips from material export (e.g., soils) and demolition hauling volume estimates. CalEEMod output worksheets and construction assumptions are included in *Attachment 1*.

Construction Fugitive Dust and PM_{10} Emissions

During grading and construction activities, dust would be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions and meteorological conditions. Typical winds during late spring through summer are from the southwest. Therefore, maximum daily emissions were computed. CalEEMod modeling results indicated that construction of the project could generate up to 10.6 pounds per day of PM_{10} emissions during the first year of construction and grading activities, which would not exceed the MBUAPCD threshold of 82 pounds per day. This impact would be considered *less than significant*. Although mitigation measures are not warranted, implementation of dust suppression measures during construction is recommended as a condition of approval to help prevent potential nuisances to nearby receptors due to fugitive dust.

Construction Exhaust Emissions

Construction exhaust emissions of ozone precursors VOC and NO_X would be generated by both on-site activities, including diesel equipment such as dozers, tractors, graders, and pavers, and off-site activities due to materials hauling, and worker and vendor trips. However, based on MBUAPCD CEQA Guidelines, exhaust emissions from these typical construction activities would not result in a significant impact because their emissions are already accounted for the emissions inventories of the State- and federally-required air plans. They would not have a significant impact on the attainment and maintenance of the ozone AAQS and therefore, this impact would be considered *less than significant*.

Recommended Conditions of Approval: Include basic measures to control dust during construction.

While mitigation is not required in regards to PM_{10} emissions, the following Condition of Approval is recommended. During any construction ground disturbance, implement measures to control dust and exhaust. Implementation of the measures recommended by MBUAPCD and listed below would reduce the air quality impacts associated with grading and new construction. The contractors shall implement the following best management practices:

1. Water all active construction areas at least twice daily;
2. Prohibit all grading activities during periods of high wind (i.e., over 15 mph);
3. Cover all trucks hauling dirt, sand or loose materials;
4. Plant vegetative ground cover in disturbed areas as soon as possible after construction and grading;
5. Cover inactive storage piles;
6. Install wheel washers at the entrance to the construction site for all existing trucks;
7. Sweep streets if visible soil material is carried out from the construction site; and
8. Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBUAPCD shall be visible.

Operational Period Emissions

The CalEEMod model along with the project vehicle trip generation rates were used to predict operational period air pollutant emissions associated with operation of a fully developed site under the proposed project. The model uses mobile emission factors from the California Air Resources Board's EMFAC2011 model. This model is sensitive to the year selected, since vehicle emissions have and continue to be reduced due to more stringent exhaust controls, newer vehicle fleet, fuel efficiency standards and low carbon fuels. Adjustments to the modeling are described below along with the methodology to predict emissions associated with the project fueling station. CalEEMod input and output worksheets are provided in *Attachment 1*.

Year of Analysis

Emissions associated with vehicle travel depend on the year of analysis. The earlier the year, the higher the emission rates as CalEEMod uses the California Air Resources Board's EMFAC2011 motor vehicle emissions model. This model assumes reduced emission rates as newer vehicles with lower emission rates replace older, more polluting vehicles through attrition of the overall vehicle fleet. The earliest full year the project could possibly be operational would be 2017. Full build out occurring later than 2017 would result in lower emissions. A separate model for year 2013 was also run for the existing apartment uses, described below.

Land Use Descriptions

The proposed project land use was input to CalEEMod, with 165 rooms entered as "Hotel," and 210 parking spaces. The existing land use was input to CalEEMod with 45 dwelling units entered as "Apartments Mid Rise."

Trip Generation Rates and Travel Distances

CalEEMod allows the user to enter specific trip generation rates. Kimley-Horn & Associates, Inc., provided the trip generation rates for the project and existing uses in the Traffic Impact Study, which were entered into the model. The project trip rate also accounted for a transit/bike trip credit and credit for the assumption that 50 percent of the spa trips would be from public use, as explained in the project traffic report.

Summary of Project Operational Emissions

Table 4 reports the predicted average daily operational emissions. As shown in Table 4, average daily emissions associated with project operation would not exceed the MBUAPCD significance thresholds. Therefore, this impact is considered *less than significant*.

Table 4. Daily Air Pollutant Emissions from Operation of the Project (pounds/day)

Scenario	VOC	NO_X	CO	PM_{10}	SO_2
Proposed Project 2017	10.5	10.1	46.7	5.2	<0.1
Existing Apartments 2013	18.9	4.3	43.3	4.5	<0.1
Project Net Emissions	-8.4	5.8	3.4	0.7	<0.1
Daily Emission Thresholds	137	137	550	82	150
Exceed Threshold?	No	No	No	No	No

Impact: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

As discussed above, the project would have emissions less than the significance thresholds adopted by MBUAPCD for evaluating impacts to ozone and particulate matter. Therefore, the project would not contribute substantially to existing or projected violations of those standards. Carbon monoxide emissions from traffic generated by the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Air pollutant monitoring data indicate that carbon monoxide levels have been at healthy levels (i.e., below State and federal standards) for years. As a result, the region has been designated as attainment/unclassified for the standard. There is an ambient air quality monitoring station in Santa Cruz that measures carbon monoxide concentrations. The highest measured level over any 8-hour averaging period during the last 3 years is less than 1.0 parts per million (ppm), compared to the ambient air quality standard of 9.0 ppm. The project would generate traffic that could affect these levels. However, consultation with MBUAPCD indicated that there are no roadway segments or intersections within the basin that have traffic volumes that would approach levels under which CO emissions would exceed air quality standards, and no further emissions modeling for CO was deemed necessary.[4] Therefore, the project does not have the potential to cause a CO violation at affected intersections and this impact would be *less than significant*.

[4] Amy Clymo, MBUPCD, personal communication with Stephanie Strelow, Strelow Consulting, October 2013.

Impact: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG Significance Thresholds

While the MBUAPCD has no formal recommendation for a quantified GHG threshold for land-use development projects, a February 2013 document published by MBUAPCD recommends the 2,000 metric tons (MT) CO_2e/year metric for further review.[5] This recommendation was made after considering AB 32 goals and scoping plan measures that would reduce regional emissions. Other possible thresholds, such as 1,000 MT CO_2e/year, were specifically not recommended by MBUAPCD. Therefore, for the purposes of this analysis, projects that have emissions below 2,000 MT of CO_2e per year are considered to have less than significant GHG emissions.

Greenhouse gas (GHG) emissions were computed for the full build out scenario of the proposed project. Specifically, operational emissions were computed for the year 2017. As described above, the CalEEMod model was used to compute air pollutant emissions. The model also predicts emissions of GHG in the form of equivalent carbon dioxide emissions or CO_2e.

Construction Period Emissions

The same CalEEMod model that was used to predict criteria pollutant emissions was also used to predict construction GHG emissions. CalEEMod output worksheets are included in *Attachment 1*. CO_2 emissions associated with construction are anticipated to occur in 2015 and 2016. Under this scenario, construction of the project would emit up to 278 MT of CO_2e (in 2015) per year. Neither the City of Santa Cruz nor the MBUAPCD have quantified thresholds for construction activities. However, this would be less than the MBUAPCD operational threshold of 2,000 MT of CO_2e per year currently under review.

Operational Period Emissions

The CalEEMod model along with the project vehicle trip generation rates and estimates were used to predict operational period GHG emissions associated with operation of a fully developed site under the proposed project. The model uses mobile emission factors from the California Air Resources Board's EMFAC2011 model. This model is sensitive to the year selected, since vehicle emissions have and continue to be reduced due to fuel efficiency standards and low carbon fuels. Adjustments to the modeling are described below.

Year of Analysis

Emissions associated with vehicle travel depend on the year of analysis. The earlier the year, the higher the emission rates as CalEEMod uses the California Air Resources Board's EMFAC2011 motor vehicle emissions model. This model assumes reduced emission rates as newer vehicles with lower emission rates replace older, more polluting vehicles through attrition of the overall vehicle fleet. The earliest full year the project could possibly be in operation would be 2017. Full build out occurring later than 2017 would result in lower emissions. A separate model for year 2013 was also run for the existing apartment uses.

[5] Monterey Bay Unified Air Pollution Control District, 2013. Letter from Mike Gilroy, Deputy Air Pollution Control Officer to District Board of Directors. *Receive an Informational Report*. February.

Trip Generation Rates and Site-Specific Land Use Features

CalEEMod allows the user to enter specific trip generation rates. As described above, Kimley-Horn & Associates, Inc., provided the trip generation rates for the project and existing use, which were entered into the model.

Electricity Generation

Default rates for energy consumption were assumed in the model. Emissions rates associated with electricity consumption were adjusted to account for Pacific Gas & Electric utility's (PG&E) projected 2017 CO_2 intensity rate. This 2017 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. CalEEMod uses a default rate of 641.35 pounds of CO_2 per megawatt of electricity produced. The derived 2017 rate for PG&E was estimated at 348.86 pounds of CO_2 per megawatt of electricity delivered and is based on the California Public Utilities Commission (CPUC) GHG Calculator.[6]

Hotel Occupancy

It should be noted that the GHG emissions threshold is based on an annual emissions level. Inputs to the CalEEMod model are based on daily inputs. This assessment conservatively assumed that these conditions and associated emissions would occur 365 days per year. The hotel occupancy rate was not considered.

GHG Operational Emissions

Table 5 presents the results of the CalEEMod model analysis in terms of annual metric tons of equivalent CO_2 emissions (MT of CO_2e/year). The CalEEMod modeling data are provided in *Attachment 1*.

As shown in Table 5, operation of the project would not exceed the current recommendation under consideration by the MBUAPCD of 2,000 MT of CO_2e/yr. This impact is, therefore, considered *less than significant*.

Table 5. Project GHG Emissions (MT CO_2e/year)

Source Category	2013 Existing apartments	2017 Proposed Project
Area	69	<1
Energy Consumption	51	575
Mobile	384	987
Solid Waste Generation	9	41
Water Usage	8	9
Total	521	1,613
Net Project Emissions		1,092
Significance Threshold		2,000

[6] California Public Utilities Commission's GHG Calculator version 3c, October 7, 2010. Available online: http://ethree.com/public_projects/cpuc2.php. Accessed: October 11, 2013.

Attachment 1: CalEEMod Input and Output

Project Name:		La Bahia Hotel, Santa Cruz						
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Equivalent CalEEMod Hours	Annual Hours	Comments
	Demolition	**Start Date:**	**5/1/2015**					
		End Date:	**6/15/2015**					
1	H-360-Loader	300	0.37	8	25	6.25	200	Demolition Volume
1	H-290-Loader	230	0.37	8	25	6.25	200	Square footage of buildings to be demolished
1	CAT 325 Loader	275	0.37	8	25	6.25	200	(*or* total tons to be hauled)
1	H-160-Loader	126	0.37	8	25	6.25	200	**0** square feet *or*
1	S-220-Bobcat Skid Steer	75	0.37	8	25	6.25	200	**2,750** Hauling volume (tons)
								Any pavement demolished and hauled?**(included above) tons**
	Grading / Excavation	**Start Date:**	**6/22/2015**					
		End Date:	**7/15/2015**					
	Subgrade Basement - 55,000 SF							
1	**140 Blade/Grader**	**165**	0.41	8	2	0.888888889	16	
2	**562 Roller / compactor**	**130**	0.38	8	2	0.888888889	32	
2	**Skip Loader**	**87**	0.37	8	2	0.888888889	32	
	Export - 23,500 CY							
2	**345 Excavator**	**345**	0.38	8	17	7.555555556	272	
1	**D5 Dozer**	**90**	0.4	8	17	7.555555556	136	
								Net Soil Hauling Volume
	Subgrade & Rock onsite walks - 6,000 SF							Export volume = **23,500** cubic yards?
2	**Skip Loader**	**87**	0.37	8	4	1.777777778	64	Import volume = **0** cubic yards?
2	**562 Roller / compactor**	**130**	0.38	8	4	1.777777778	64	
	Building Construction	**Start Date:**	**7/22/2015**					
		End Date:	**7/22/2016**					
1	Cranes	226	0.29	8	15	0.456273764	120	
2	Forklifts/Gradalls	89	0.2	8	260	7.908745247	4160	
2	Tractors/Loaders/Backhoes	97	0.37	8	13	0.395437262	208	
3	Welders	46	0.45	8	35	1.064638783	840	
tectural Coating		**Start Date:**	**7/23/2016**					
		End Date:	**11/23/2016**					
3	Air Compressors	78	0.48	8	45	4.090909091	1080	
1	Plaster Pump	25	0.74	8	35	3.181818182	280	
								Cement Trucks? **450** Total Round-Trips
	Site Preperation	**Start Date:**	**9/1/2016**					
		End Date:	**10/20/2016**					Electric? (Y/N) _N__ Otherwise assumed diesel
	Rough Grade - 500 CY							Liquid Propane (LPG)? (Y/N) _N__ Otherwise Assumed diesel
1	**140 Blade/Grader**	**165**	0.41	8	1	0.222222222	8	
1	**D5 Dozer**	**90**	0.4	8	1	0.222222222	8	
	Paving	**Start Date:**	**10/20/2016**					
		Start Date:	**10/30/2016**					
	Offsite Demolition - 100 CY							
1	**426 Backhoe**	**95**	0.37	8	3	3.428571429	24	
1	**Skip Loader**	**87**	0.37	8	3	3.428571429	24	
	Offsite Export - 120 CY							
1	**426 Backhoe**	**95**	0.37	8	2	2.285714286	16	
1	**Skip Loader**	**87**	0.37	8	2	2.285714286	16	
	Subgrade & Rock offsite walks - 6,000 SF							
1	**Skip Loader**	**87**	0.37	8	6	6.857142857	48	
1	**562 Roller / compactor**	**130**	0.38	8	6	6.857142857	48	
	Asphalt Paving - 50 TN							
1	**Skip Loader**	**87**	0.37	8	1	1.142857143	8	
1	**120 Roller / compactor**	**32**	0.38	8	1	1.142857143	8	

La Bahia, Santa Cruz

Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	210.00	Space	0.00	61,308.00	0
Hotel	165.00	Room	1.40	132,875.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	4			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	348.86	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor (348.86 lb/MWh) for 2017 obtained from CPUC GHG Calculator version 3c.

Land Use - Lot acreage: approximately 1.4 acres based on project description.

Construction Phase - Anticipated construction schedule provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

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Demolition - 2,750 tons Demo volume plus 100 CY/tons (CalEEMod assumes 1 CY = 1 ton) during paving.

Grading - 23,500 CY soil hauling export during grading/excavation. 120 CY offsite export for paving (entered for site preparation by CalEEMod default).

Vehicle Trips - Project trip generation provided by Kimley-Horn & Associates, Inc. (September, 2013).

Energy Use - No change

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	88.00
tblConstructionPhase	NumDays	200.00	263.00
tblConstructionPhase	NumDays	20.00	32.00
tblConstructionPhase	NumDays	4.00	18.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	2.00	36.00
tblConstructionPhase	PhaseEndDate	7/18/2016	7/22/2016
tblConstructionPhase	PhaseEndDate	7/9/2015	7/15/2015
tblConstructionPhase	PhaseEndDate	10/31/2016	10/30/2016
tblConstructionPhase	PhaseEndDate	1/12/2017	10/20/2016
tblConstructionPhase	PhaseStartDate	7/16/2015	7/22/2015
tblConstructionPhase	PhaseStartDate	6/16/2015	6/22/2015
tblConstructionPhase	PhaseStartDate	10/21/2016	10/20/2016
tblConstructionPhase	PhaseStartDate	11/24/2016	9/1/2016
tblGrading	AcresOfGrading	1.01	1.50
tblGrading	AcresOfGrading	0.45	1.00
tblGrading	MaterialExported	0.00	23,500.00
tblGrading	MaterialExported	0.00	120.00
tblLandUse	LandUseSquareFeet	84,000.00	61,308.00
tblLandUse	LandUseSquareFeet	239,580.00	132,875.00
tblLandUse	LotAcreage	1.89	0.00
tblLandUse	LotAcreage	5.50	1.40
tblOffRoadEquipment	HorsePower	174.00	165.00
tblOffRoadEquipment	HorsePower	174.00	165.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	80.00	32.00
tblOffRoadEquipment	HorsePower	255.00	90.00
tblOffRoadEquipment	HorsePower	255.00	90.00

tblOffRoadEquipment	HorsePower	97.00	300.00
tblOffRoadEquipment	HorsePower	97.00	230.00
tblOffRoadEquipment	HorsePower	97.00	275.00
tblOffRoadEquipment	HorsePower	97.00	126.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	95.00
tblOffRoadEquipment	HorsePower	97.00	95.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	162.00	345.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	64.00	75.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.10
tblOffRoadEquipment	UsageHours	6.00	0.50
tblOffRoadEquipment	UsageHours	6.00	7.90
tblOffRoadEquipment	UsageHours	6.00	0.90
tblOffRoadEquipment	UsageHours	8.00	0.20
tblOffRoadEquipment	UsageHours	7.00	6.90
tblOffRoadEquipment	UsageHours	7.00	1.10
tblOffRoadEquipment	UsageHours	6.00	7.60
tblOffRoadEquipment	UsageHours	7.00	0.20
tblOffRoadEquipment	UsageHours	6.00	0.40
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	7.00	0.90
tblOffRoadEquipment	UsageHours	7.00	1.80
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	6.90
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	1.10
tblProjectCharacteristics	CO2IntensityFactor	641.35	348.86
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	WD_TR	8.17	8.11

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.1859	1.6388	1.7281	3.0200e-003	0.1647	0.0600	0.2247	0.0551	0.0555	0.1106	0.0000	272.1187	272.1187	0.0298	0.0000	272.7443
2016	2.4114	0.9592	1.3033	1.9000e-003	0.0724	0.0577	0.1301	0.0202	0.0550	0.0752	0.0000	159.8785	159.8785	0.0171	0.0000	160.2377
Total	**2.5973**	**2.5980**	**3.0314**	**4.9200e-003**	**0.2371**	**0.1177**	**0.3548**	**0.0753**	**0.1105**	**0.1858**	**0.0000**	**431.9972**	**431.9972**	**0.0469**	**0.0000**	**432.9819**

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	0.9839	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.3100e-003	9.3100e-003	3.0000e-005	0.0000	9.8500e-003
Energy	0.0332	0.3021	0.2538	1.8100e-003		0.0230	0.0230		0.0230	0.0230	0.0000	571.7157	571.7157	0.0265	0.0102	575.4358
Mobile	0.8902	1.5436	8.2682	0.0130	0.9084	0.0181	0.9265	0.2433	0.0166	0.2599	0.0000	985.9866	985.9866	0.0579	0.0000	987.2020
Waste						0.0000	0.0000		0.0000	0.0000	18.3382	0.0000	18.3382	1.0838	0.0000	41.0971
Water						0.0000	0.0000		0.0000	0.0000	1.3279	3.8414	5.1692	0.1367	3.2900e-003	9.0588
Total	**1.9073**	**1.8458**	**8.5268**	**0.0148**	**0.9084**	**0.0411**	**0.9495**	**0.2433**	**0.0396**	**0.2829**	**19.6661**	**1,561.5530**	**1,581.2191**	**1.3049**	**0.0135**	**1,612.8036**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2015	6/15/2015	5	32	
2	Grading	Grading	6/22/2015	7/15/2015	5	18	
3	Building Construction	Building Construction	7/22/2015	7/22/2016	5	263	
4	Architectural Coating	Architectural Coating	7/23/2016	11/23/2016	5	88	
5	Site Preparation	Site Preparation	9/1/2016	10/20/2016	5	36	
6	Paving	Paving	10/20/2016	10/30/2016	5	7	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 291,275; Non-Residential Outdoor: 97,092 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Demolition	Skid Steer Loaders	1	6.30	75	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	300	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	230	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	275	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	126	0.37
Grading	Excavators	2	7.60	345	0.38
Grading	Graders	1	0.90	165	0.41
Grading	Rollers	2	0.90	130	0.38
Grading	Rollers	2	1.80	130	0.38
Grading	Rubber Tired Dozers	1	7.60	90	0.40
Grading	Tractors/Loaders/Backhoes	2	0.90	87	0.37
Grading	Tractors/Loaders/Backhoes	2	1.80	87	0.37

Building Construction	Cranes	1	0.50	226	0.29
Building Construction	Forklifts	2	7.90	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	0.40	97	0.37
Building Construction	Welders	3	1.10	46	0.45
Architectural Coating	Air Compressors	3	4.10	78	0.48
Architectural Coating	Pumps	1	3.20	25	0.74
Site Preparation	Graders	1	0.20	165	0.41
Site Preparation	Rubber Tired Dozers	1	0.20	90	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	6.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	1	6.90	130	0.38
Paving	Rollers	1	1.10	32	0.38
Paving	Tractors/Loaders/Backhoes	1	3.40	87	0.37
Paving	Tractors/Loaders/Backhoes	1	3.40	95	0.37
Paving	Tractors/Loaders/Backhoes	1	2.30	95	0.37
Paving	Tractors/Loaders/Backhoes	1	2.30	87	0.37
Paving	Tractors/Loaders/Backhoes	1	6.90	87	0.37
Paving	Tractors/Loaders/Backhoes	1	1.10	87	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	282.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	0.00	2,938.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	82.00	32.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	15.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Demolition - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0305	0.0000	0.0305	4.6200e-003	0.0000	4.6200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0271	0.3696	0.1694	4.0000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	38.3405	38.3405	0.0115	0.0000	38.5808
Total	**0.0271**	**0.3696**	**0.1694**	**4.0000e-004**	**0.0305**	**0.0139**	**0.0444**	**4.6200e-003**	**0.0128**	**0.0174**	**0.0000**	**38.3405**	**38.3405**	**0.0115**	**0.0000**	**38.5808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.5700e-003	0.0439	0.0478	1.0000e-004	2.3600e-003	6.8000e-004	3.0400e-003	6.5000e-004	6.3000e-004	1.2800e-003	0.0000	9.3340	9.3340	7.0000e-005	0.0000	9.3356
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	1.5700e-003	0.0144	2.0000e-005	1.6500e-003	2.0000e-005	1.6600e-003	4.4000e-004	2.0000e-005	4.5000e-004	0.0000	1.5757	1.5757	1.2000e-004	0.0000	1.5782
Total	**4.6900e-003**	**0.0454**	**0.0622**	**1.2000e-004**	**4.0100e-003**	**7.0000e-004**	**4.7000e-003**	**1.0900e-003**	**6.5000e-004**	**1.7300e-003**	**0.0000**	**10.9097**	**10.9097**	**1.9000e-004**	**0.0000**	**10.9137**

3.3 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0536	0.0000	0.0536	0.0286	0.0000	0.0286	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0141	0.1807	0.0860	2.4000e-004		7.3100e-003	7.3100e-003		6.7300e-003	6.7300e-003	0.0000	22.9351	22.9351	6.8500e-003	0.0000	23.0788
Total	**0.0141**	**0.1807**	**0.0860**	**2.4000e-004**	**0.0536**	**7.3100e-003**	**0.0609**	**0.0286**	**6.7300e-003**	**0.0353**	**0.0000**	**22.9351**	**22.9351**	**6.8500e-003**	**0.0000**	**23.0788**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0371	0.4569	0.4984	1.0600e-003	0.0246	7.1200e-003	0.0317	6.7500e-003	6.5500e-003	0.0133	0.0000	97.2457	97.2457	7.7000e-004	0.0000	97.2619
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	2.0400e-003	0.0187	3.0000e-005	2.1400e-003	2.0000e-005	2.1600e-003	5.7000e-004	2.0000e-005	5.9000e-004	0.0000	2.0454	2.0454	1.5000e-004	0.0000	2.0486
Total	**0.0386**	**0.4589**	**0.5171**	**1.0900e-003**	**0.0267**	**7.1400e-003**	**0.0339**	**7.3200e-003**	**6.5700e-003**	**0.0139**	**0.0000**	**99.2911**	**99.2911**	**9.2000e-004**	**0.0000**	**99.3105**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.3368	0.2218	2.8000e-004		0.0269	0.0269		0.0251	0.0251	0.0000	25.0534	25.0534	7.3500e-003	0.0000	25.2079

Total	**0.0478**	**0.3368**	**0.2218**	**2.8000e-004**		**0.0269**	**0.0269**		**0.0251**	**0.0251**	**0.0000**	**25.0534**	**25.0534**	**7.3500e-003**	**0.0000**	**25.2079**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0278	0.2111	0.3394	4.3000e-004	0.0119	3.5900e-003	0.0155	3.3800e-003	3.3000e-003	6.6800e-003	0.0000	39.2490	39.2490	3.6000e-004	0.0000	39.2565
Worker	0.0258	0.0362	0.3322	4.6000e-004	0.0380	4.2000e-004	0.0384	0.0101	3.8000e-004	0.0105	0.0000	36.3400	36.3400	2.6700e-003	0.0000	36.3960
Total	**0.0536**	**0.2473**	**0.6716**	**8.9000e-004**	**0.0499**	**4.0100e-003**	**0.0538**	**0.0135**	**3.6800e-003**	**0.0172**	**0.0000**	**75.5890**	**75.5890**	**3.0300e-003**	**0.0000**	**75.6526**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0554	0.3986	0.2726	3.5000e-004		0.0314	0.0314		0.0293	0.0293	0.0000	30.9976	30.9976	9.0200e-003	0.0000	31.1869
Total	**0.0554**	**0.3986**	**0.2726**	**3.5000e-004**		**0.0314**	**0.0314**		**0.0293**	**0.0293**	**0.0000**	**30.9976**	**30.9976**	**9.0200e-003**	**0.0000**	**31.1869**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0316	0.2299	0.3987	5.4000e-004	0.0148	3.7500e-003	0.0186	4.2200e-003	3.4400e-003	7.6600e-003	0.0000	48.5184	48.5184	4.0000e-004	0.0000	48.5269
Worker	0.0279	0.0399	0.3630	5.8000e-004	0.0474	4.8000e-004	0.0479	0.0126	4.4000e-004	0.0130	0.0000	43.7564	43.7564	2.9800e-003	0.0000	43.8191
Total	**0.0595**	**0.2698**	**0.7616**	**1.1200e-003**	**0.0622**	**4.2300e-003**	**0.0664**	**0.0168**	**3.8800e-003**	**0.0207**	**0.0000**	**92.2748**	**92.2748**	**3.3800e-003**	**0.0000**	**92.3459**

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2501					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0382	0.2416	0.1849	3.1000e-004		0.0192	0.0192		0.0192	0.0192	0.0000	25.9910	25.9910	3.1200e-003	0.0000	26.0564
Total	**2.2883**	**0.2416**	**0.1849**	**3.1000e-004**		**0.0192**	**0.0192**		**0.0192**	**0.0192**	**0.0000**	**25.9910**	**25.9910**	**3.1200e-003**	**0.0000**	**26.0564**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2800e-003	4.6900e-003	0.0427	7.0000e-005	5.5700e-003	6.0000e-005	5.6300e-003	1.4800e-003	5.0000e-005	1.5300e-003	0.0000	5.1461	5.1461	3.5000e-004	0.0000	5.1535
Total	**3.2800e-003**	**4.6900e-003**	**0.0427**	**7.0000e-005**	**5.5700e-003**	**6.0000e-005**	**5.6300e-003**	**1.4800e-003**	**5.0000e-005**	**1.5300e-003**	**0.0000**	**5.1461**	**5.1461**	**3.5000e-004**	**0.0000**	**5.1535**

3.6 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2500e-003	0.0000	3.2500e-003	1.5500e-003	0.0000	1.5500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3000e-004	4.4300e-003	2.1000e-003	0.0000		2.5000e-004	2.5000e-004		2.3000e-004	2.3000e-004	0.0000	0.2514	0.2514	8.0000e-005	0.0000	0.2530
Total	**4.3000e-004**	**4.4300e-003**	**2.1000e-003**	**0.0000**	**3.2500e-003**	**2.5000e-004**	**3.5000e-003**	**1.5500e-003**	**2.3000e-004**	**1.7800e-003**	**0.0000**	**0.2514**	**0.2514**	**8.0000e-005**	**0.0000**	**0.2530**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	2.0000e-003	2.4200e-003	1.0000e-005	1.3000e-004	3.0000e-005	1.6000e-004	3.0000e-005	3.0000e-005	6.0000e-005	0.0000	0.4925	0.4925	0.0000	0.0000	0.4926
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	4.2000e-004	6.0000e-004	5.4600e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6579	0.6579	4.0000e-005	0.0000	0.6588
Total	**5.9000e-004**	**2.6000e-003**	**7.8800e-003**	**2.0000e-005**	**8.4000e-004**	**4.0000e-005**	**8.8000e-004**	**2.2000e-004**	**4.0000e-005**	**2.6000e-004**	**0.0000**	**1.1504**	**1.1504**	**4.0000e-005**	**0.0000**	**1.1514**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6800e-003	0.0371	0.0273	4.0000e-005		2.5200e-003	2.5200e-003		2.3200e-003	2.3200e-003	0.0000	3.5556	3.5556	1.0700e-003	0.0000	3.5781
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6800e-003**	**0.0371**	**0.0273**	**4.0000e-005**		**2.5200e-003**	**2.5200e-003**		**2.3200e-003**	**2.3200e-003**	**0.0000**	**3.5556**	**3.5556**	**1.0700e-003**	**0.0000**	**3.5781**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	4.7000e-004	4.2400e-003	1.0000e-005	5.5000e-004	1.0000e-005	5.6000e-004	1.5000e-004	1.0000e-005	1.5000e-004	0.0000	0.5117	0.5117	3.0000e-005	0.0000	0.5124
Total	**3.3000e-004**	**4.7000e-004**	**4.2400e-003**	**1.0000e-005**	**5.5000e-004**	**1.0000e-005**	**5.6000e-004**	**1.5000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.5117**	**0.5117**	**3.0000e-005**	**0.0000**	**0.5124**

4.0 Operational Detail - 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					
Unmitigated	0.8902	1.5436	8.2682	0.0130	0.9084	0.0181	0.9265	0.2433	0.0166	0.2599	0.0000	985.9866	985.9866	0.0579	0.0000	987.2020

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,338.15	1,351.35	981.75	2,449,241	2,449,241
Total	1,338.15	1,351.35	981.75	2,449,241	2,449,241

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.493611	0.037704	0.233719	0.143545	0.049889	0.006902	0.012747	0.004763	0.000945	0.002902	0.009119	0.000709	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

	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 Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	242.8483	242.8483	0.0202	4.1800e-003	244.5670

NaturalGas Unmitigated	0.0332	0.3021	0.2538	1.8100e-003		0.0230	0.0230		0.0230	0.0230	0.0000	328.8674	328.8674	6.3000e-003	6.0300e-003	330.8688

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					
Hotel	6.16274e+006	0.0332	0.3021	0.2538	1.8100e-003		0.0230	0.0230		0.0230	0.0230	0.0000	328.8674	328.8674	6.3000e-003	6.0300e-003	330.8688
Enclosed Parking with Elevator	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
Total		**0.0332**	**0.3021**	**0.2538**	**1.8100e-003**		**0.0230**	**0.0230**		**0.0230**	**0.0230**	**0.0000**	**328.8674**	**328.8674**	**6.3000e-003**	**6.0300e-003**	**330.8688**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	413216	65.3874	5.4400e-003	1.1200e-003	65.8502
Hotel	1.12147e+006	177.4609	0.0148	3.0500e-003	178.7168
Total		**242.8483**	**0.0202**	**4.1700e-003**	**244.5670**

6.0 Area Detail

	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					
Unmitigated	0.9839	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.3100e-003	9.3100e-003	3.0000e-005	0.0000	9.8500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2250					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7584					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7000e-004	5.0000e-005	4.8800e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.3100e-003	9.3100e-003	3.0000e-005	0.0000	9.8500e-003
Total	**0.9839**	**5.0000e-005**	**4.8800e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.3100e-003**	**9.3100e-003**	**3.0000e-005**	**0.0000**	**9.8500e-003**

7.0 Water Detail

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	5.1692	0.1367	3.2900e-003	9.0588

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	4.18552 / 0.465057	5.1692	0.1367	3.2900e-003	9.0588
Total		**5.1692**	**0.1367**	**3.2900e-003**	**9.0588**

8.0 Waste Detail

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	18.3382	1.0838	0.0000	41.0971

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	90.34	18.3382	1.0838	0.0000	41.0971

Total		**18.3382**	**1.0838**	**0.0000**	**41.0971**

9.0 Operational Offroad

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

10.0 Vegetation

La Bahia, Santa Cruz - Existing

Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	45.00	Dwelling Unit	1.40	45,000.00	129

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	4			**Operational Year**	2013
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	431.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor (431.29 lb/MWh) for 2013 obtained from CPUC GHG Calculator version 3c.

Land Use - Lot acreage: approximately 1.4 acres based on project description.

Vehicle Trips - Project trip generation provided by Kimley-Horn & Associates, Inc. (September, 2013).

Energy Use - No change

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	1.18	1.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	431.29
tblProjectCharacteristics	OperationalYear	2014	2013
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,938.00
tblVehicleTrips	WD_TR	6.59	6.67

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	3.0857	0.0440	3.9567	1.3800e-003		0.4912	0.4912		0.4912	0.4912	46.4831	20.2524	66.7355	0.0437	3.6600e-003	68.7872
Energy	1.9700e-003	0.0169	7.1700e-003	1.1000e-004		1.3600e-003	1.3600e-003		1.3600e-003	1.3600e-003	0.0000	50.5630	50.5630	2.4600e-003	7.9000e-004	50.8595
Mobile	0.3589	0.7318	3.9332	4.5300e-003	0.3200	9.5200e-003	0.3295	0.0857	8.7200e-003	0.0944	0.0000	383.0261	383.0261	0.0286	0.0000	383.6270
Waste						0.0000	0.0000		0.0000	0.0000	4.2019	0.0000	4.2019	0.2483	0.0000	9.4168
Water						0.0000	0.0000		0.0000	0.0000	0.9302	4.3692	5.2994	0.0958	2.3200e-003	8.0300
Total	**3.4465**	**0.7926**	**7.8971**	**6.0200e-003**	**0.3200**	**0.5021**	**0.8220**	**0.0857**	**0.5013**	**0.5870**	**51.6152**	**458.2107**	**509.8258**	**0.4190**	**6.7700e-003**	**520.7203**

4.0 Operational Detail - 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					
Unmitigated	0.3589	0.7318	3.9332	4.5300e-003	0.3200	9.5200e-003	0.3295	0.0857	8.7200e-003	0.0944	0.0000	383.0261	383.0261	0.0286	0.0000	383.6270

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	300.15	322.20	273.15	862,662	862,662
Total	300.15	322.20	273.15	862,662	862,662

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.491513	0.039076	0.232176	0.146489	0.050871	0.007023	0.011448	0.004162	0.000981	0.003035	0.008997	0.000737	0.003492

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

	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 Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	31.0455	31.0455	2.0900e-003	4.3000e-004	31.2232
NaturalGas Unmitigated	1.9700e-003	0.0169	7.1700e-003	1.1000e-004		1.3600e-003	1.3600e-003		1.3600e-003	1.3600e-003	0.0000	19.5174	19.5174	3.7000e-004	3.6000e-004	19.6362

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					
Apartments Mid Rise	365743	1.9700e-003	0.0169	7.1700e-003	1.1000e-004		1.3600e-003	1.3600e-003		1.3600e-003	1.3600e-003	0.0000	19.5174	19.5174	3.7000e-004	3.6000e-004	19.6362
Total		**1.9700e-003**	**0.0169**	**7.1700e-003**	**1.1000e-004**		**1.3600e-003**	**1.3600e-003**		**1.3600e-003**	**1.3600e-003**	**0.0000**	**19.5174**	**19.5174**	**3.7000e-004**	**3.6000e-004**	**19.6362**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	158695	31.0455	2.0900e-003	4.3000e-004	31.2232
Total		**31.0455**	**2.0900e-003**	**4.3000e-004**	**31.2232**

6.0 Area Detail

	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					
Unmitigated	3.0857	0.0440	3.9567	1.3800e-003		0.4912	0.4912		0.4912	0.4912	46.4831	20.2524	66.7355	0.0437	3.6600e-003	68.7872

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	0.0704					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1758					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.8236	0.0383	3.4784	1.3600e-003		0.4887	0.4887		0.4887	0.4887	46.4831	19.4943	65.9774	0.0429	3.6600e-003	68.0117
Landscaping	0.0159	5.7000e-003	0.4784	2.0000e-005		2.5200e-003	2.5200e-003		2.5200e-003	2.5200e-003	0.0000	0.7581	0.7581	8.3000e-004	0.0000	0.7755
Total	**3.0857**	**0.0440**	**3.9567**	**1.3800e-003**		**0.4912**	**0.4912**		**0.4912**	**0.4912**	**46.4831**	**20.2524**	**66.7355**	**0.0437**	**3.6600e-003**	**68.7872**

7.0 Water Detail

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	5.2994	0.0958	2.3200e-003	8.0300

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.93193 / 1.84839	5.2994	0.0958	2.3200e-003	8.0300
Total		**5.2994**	**0.0958**	**2.3200e-003**	**8.0300**

8.0 Waste Detail

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	4.2019	0.2483	0.0000	9.4168

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	20.7	4.2019	0.2483	0.0000	9.4168
Total		**4.2019**	**0.2483**	**0.0000**	**9.4168**

9.0 Operational Offroad

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

10.0 Vegetation

La Bahia, Santa Cruz

Santa Cruz County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	210.00	Space	0.00	61,308.00	0
Hotel	165.00	Room	1.40	132,875.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	4			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	348.86	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage: approximately 1.4 acres based on project description.

Construction Phase - Anticipated construction schedule provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Demolition - 2,750 tons Demo volume plus 100 CY/tons (CalEEMod assumes 1 CY = 1 ton) during paving.

Grading - 23,500 CY soil hauling export during grading/excavation. 120 CY offsite export for paving (entered for site preparation by CalEEMod default).

APPENDIX E

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	88.00
tblConstructionPhase	NumDays	200.00	263.00
tblConstructionPhase	NumDays	20.00	32.00
tblConstructionPhase	NumDays	4.00	18.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	2.00	36.00
tblConstructionPhase	PhaseEndDate	7/18/2016	7/22/2016
tblConstructionPhase	PhaseEndDate	7/9/2015	7/15/2015
tblConstructionPhase	PhaseEndDate	10/31/2016	10/30/2016
tblConstructionPhase	PhaseEndDate	1/12/2017	10/20/2016
tblConstructionPhase	PhaseStartDate	7/16/2015	7/22/2015
tblConstructionPhase	PhaseStartDate	6/16/2015	6/22/2015
tblConstructionPhase	PhaseStartDate	10/21/2016	10/20/2016
tblConstructionPhase	PhaseStartDate	11/24/2016	9/1/2016
tblGrading	AcresOfGrading	1.01	1.50
tblGrading	AcresOfGrading	0.45	1.00
tblGrading	MaterialExported	0.00	23,500.00
tblGrading	MaterialExported	0.00	120.00
tblLandUse	LandUseSquareFeet	84,000.00	61,308.00
tblLandUse	LandUseSquareFeet	239,580.00	132,875.00
tblLandUse	LotAcreage	1.89	0.00
tblLandUse	LotAcreage	5.50	1.40
tblOffRoadEquipment	HorsePower	174.00	165.00
tblOffRoadEquipment	HorsePower	174.00	165.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	80.00	32.00
tblOffRoadEquipment	HorsePower	255.00	90.00
tblOffRoadEquipment	HorsePower	255.00	90.00
tblOffRoadEquipment	HorsePower	97.00	300.00
tblOffRoadEquipment	HorsePower	97.00	230.00

tblOffRoadEquipment	HorsePower	97.00	275.00
tblOffRoadEquipment	HorsePower	97.00	126.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	95.00
tblOffRoadEquipment	HorsePower	97.00	95.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	162.00	345.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	64.00	75.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	UsageHours	6.00	4.10
tblOffRoadEquipment	UsageHours	6.00	0.50
tblOffRoadEquipment	UsageHours	6.00	7.90
tblOffRoadEquipment	UsageHours	6.00	0.90
tblOffRoadEquipment	UsageHours	8.00	0.20
tblOffRoadEquipment	UsageHours	7.00	6.90
tblOffRoadEquipment	UsageHours	7.00	1.10
tblOffRoadEquipment	UsageHours	6.00	7.60
tblOffRoadEquipment	UsageHours	7.00	0.20
tblOffRoadEquipment	UsageHours	6.00	0.40
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	7.00	0.90
tblOffRoadEquipment	UsageHours	7.00	1.80
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	6.90
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	1.10
tblProjectCharacteristics	CO2IntensityFactor	641.35	348.86
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	WD_TR	8.17	8.11

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	5.5323	69.1774	58.5784	0.1473	9.0269	1.6051	10.6320	4.0139	1.4765	5.4904	0.0000	14,994.4428	14,994.4428	0.9511	0.0000	15,014.4157
2016	53.2803	16.6931	14.7001	0.0224	0.8830	1.1765	1.7009	0.2381	1.1173	1.2946	0.0000	2,162.8916	2,162.8916	0.4432	0.0000	2,172.1996
Total	**58.8126**	**85.8705**	**73.2785**	**0.1697**	**9.9099**	**2.7816**	**12.3329**	**4.2520**	**2.5937**	**6.7850**	**0.0000**	**17,157.3344**	**17,157.3344**	**1.3943**	**0.0000**	**17,186.6153**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2015	6/15/2015	5	32	
2	Grading	Grading	6/22/2015	7/15/2015	5	18	
3	Building Construction	Building Construction	7/22/2015	7/22/2016	5	263	
4	Architectural Coating	Architectural Coating	7/23/2016	11/23/2016	5	88	
5	Site Preparation	Site Preparation	9/1/2016	10/20/2016	5	36	
6	Paving	Paving	10/20/2016	10/30/2016	5	7	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 291,275; Non-Residential Outdoor: 97,092 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73

Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Demolition	Skid Steer Loaders	1	6.30	75	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	300	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	230	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	275	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	126	0.37
Grading	Excavators	2	7.60	345	0.38
Grading	Graders	1	0.90	165	0.41
Grading	Rollers	2	0.90	130	0.38
Grading	Rollers	2	1.80	130	0.38
Grading	Rubber Tired Dozers	1	7.60	90	0.40
Grading	Tractors/Loaders/Backhoes	2	0.90	87	0.37
Grading	Tractors/Loaders/Backhoes	2	1.80	87	0.37
Building Construction	Cranes	1	0.50	226	0.29
Building Construction	Forklifts	2	7.90	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	0.40	97	0.37
Building Construction	Welders	3	1.10	46	0.45
Architectural Coating	Air Compressors	3	4.10	78	0.48
Architectural Coating	Pumps	1	3.20	25	0.74
Site Preparation	Graders	1	0.20	165	0.41
Site Preparation	Rubber Tired Dozers	1	0.20	90	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	6.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	1	6.90	130	0.38
Paving	Rollers	1	1.10	32	0.38
Paving	Tractors/Loaders/Backhoes	1	3.40	87	0.37
Paving	Tractors/Loaders/Backhoes	1	3.40	95	0.37
Paving	Tractors/Loaders/Backhoes	1	2.30	95	0.37

Paving	Tractors/Loaders/Backhoes	1	2.30	87	0.37
Paving	Tractors/Loaders/Backhoes	1	6.90	87	0.37
Paving	Tractors/Loaders/Backhoes	1	1.10	87	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	282.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	0.00	2,938.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	82.00	32.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	15.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Demolition - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9059	0.0000	1.9059	0.2886	0.0000	0.2886			0.0000			0.0000
Off-Road	1.6930	23.1024	10.5853	0.0252		0.8673	0.8673		0.7979	0.7979		2,641.4441	2,641.4441	0.7886		2,658.0044
Total	**1.6930**	**23.1024**	**10.5853**	**0.0252**	**1.9059**	**0.8673**	**2.7731**	**0.2886**	**0.7979**	**1.0865**		**2,641.4441**	**2,641.4441**	**0.7886**		**2,658.0044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day					
Hauling	0.2056	2.6401	2.5359	6.3400e-003	0.1524	0.0427	0.1951	0.0417	0.0392	0.0809		643.7204	643.7204	5.0800e-003		643.8270
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0861	0.8916	1.3200e-003	0.1068	1.1300e-003	0.1079	0.0283	1.0300e-003	0.0294		113.7951	113.7951	7.9700e-003		113.9625
Total	**0.2748**	**2.7262**	**3.4275**	**7.6600e-003**	**0.2592**	**0.0438**	**0.3030**	**0.0700**	**0.0403**	**0.1103**		**757.5155**	**757.5155**	**0.0131**		**757.7895**

3.3 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					5.9570	0.0000	5.9570	3.1766	0.0000	3.1766			0.0000			0.0000
Off-Road	1.5649	20.0799	9.5519	0.0268		0.8124	0.8124		0.7474	0.7474		2,809.0624	2,809.0624	0.8386		2,826.6735
Total	**1.5649**	**20.0799**	**9.5519**	**0.0268**	**5.9570**	**0.8124**	**6.7694**	**3.1766**	**0.7474**	**3.9240**		**2,809.0624**	**2,809.0624**	**0.8386**		**2,826.6735**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	3.8077	48.8989	46.9690	0.1175	2.8235	0.7901	3.6135	0.7720	0.7267	1.4986		11,922.7763	11,922.7763	0.0941		11,924.7520
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.1598	0.1987	2.0576	3.0400e-003	0.2464	2.6100e-003	0.2491	0.0654	2.3700e-003	0.0677		262.6041	262.6041	0.0184		262.9903
Total	**3.9674**	**49.0975**	**49.0266**	**0.1205**	**3.0699**	**0.7927**	**3.8626**	**0.8373**	**0.7291**	**1.5664**		**12,185.3803**	**12,185.3803**	**0.1125**		**12,187.7423**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8172	5.7566	3.7913	4.7300e-003		0.4606	0.4606		0.4289	0.4289		472.0799	472.0799	0.1386		474.9900
Total	**0.8172**	**5.7566**	**3.7913**	**4.7300e-003**		**0.4606**	**0.4606**		**0.4289**	**0.4289**		**472.0799**	**472.0799**	**0.1386**		**474.9900**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4195	3.4890	4.5714	7.3600e-003	0.2093	0.0609	0.2702	0.0594	0.0560	0.1153		742.0236	742.0236	6.7300e-003		742.1649
Worker	0.4367	0.5430	5.6240	8.3200e-003	0.6736	7.1300e-003	0.6807	0.1787	6.4700e-003	0.1851		717.7845	717.7845	0.0503		718.8401
Total	**0.8562**	**4.0320**	**10.1955**	**0.0157**	**0.8829**	**0.0680**	**0.9509**	**0.2380**	**0.0624**	**0.3005**		**1,459.8080**	**1,459.8080**	**0.0570**		**1,461.0049**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7592	5.4598	3.7347	4.7300e-003		0.4304	0.4304		0.4007	0.4007		468.0678	468.0678	0.1362		470.9270
Total	**0.7592**	**5.4598**	**3.7347**	**4.7300e-003**		**0.4304**	**0.4304**		**0.4007**	**0.4007**		**468.0678**	**468.0678**	**0.1362**		**470.9270**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3818	3.0451	4.2691	7.3600e-003	0.2094	0.0510	0.2604	0.0594	0.0469	0.1063		735.0788	735.0788	6.0400e-003		735.2057
Worker	0.3797	0.4789	4.9509	8.3000e-003	0.6736	6.5800e-003	0.6802	0.1787	6.0100e-003	0.1847		692.6866	692.6866	0.0451		693.6327
Total	**0.7615**	**3.5240**	**9.2200**	**0.0157**	**0.8830**	**0.0576**	**0.9406**	**0.2381**	**0.0529**	**0.2910**		**1,427.7654**	**1,427.7654**	**0.0511**		**1,428.8384**

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Archit. Coating	51.1387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8669	5.4899	4.2019	7.0100e-003		0.4363	0.4363		0.4363	0.4363		651.1393	651.1393	0.0781		652.7788
Total	**52.0056**	**5.4899**	**4.2019**	**7.0100e-003**		**0.4363**	**0.4363**		**0.4363**	**0.4363**		**651.1393**	**651.1393**	**0.0781**		**652.7788**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0741	0.0935	0.9660	1.6200e-003	0.1314	1.2800e-003	0.1327	0.0349	1.1700e-003	0.0360		135.1584	135.1584	8.7900e-003		135.3430
Total	**0.0741**	**0.0935**	**0.9660**	**1.6200e-003**	**0.1314**	**1.2800e-003**	**0.1327**	**0.0349**	**1.1700e-003**	**0.0360**		**135.1584**	**135.1584**	**8.7900e-003**		**135.3430**

3.6 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1804	0.0000	0.1804	0.0860	0.0000	0.0860			0.0000			0.0000
Off-Road	0.0242	0.2461	0.1168	1.5000e-004		0.0138	0.0138		0.0127	0.0127		15.3954	15.3954	4.6400e-003		15.4929

Total	**0.0242**	**0.2461**	**0.1168**	**1.5000e-004**	**0.1804**	**0.0138**	**0.1942**	**0.0860**	**0.0127**	**0.0987**		**15.3954**	**15.3954**	**4.6400e-003**		**15.4929**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.9400e-003	0.1069	0.1131	3.0000e-004	7.2100e-003	1.6400e-003	8.8600e-003	1.9700e-003	1.5100e-003	3.4800e-003		30.1938	30.1938	2.2000e-004		30.1983
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0232	0.0292	0.3019	5.1000e-004	0.0411	4.0000e-004	0.0415	0.0109	3.7000e-004	0.0113		42.2370	42.2370	2.7500e-003		42.2947
Total	**0.0321**	**0.1361**	**0.4150**	**8.1000e-004**	**0.0483**	**2.0400e-003**	**0.0503**	**0.0129**	**1.8800e-003**	**0.0147**		**72.4308**	**72.4308**	**2.9700e-003**		**72.4930**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0518	10.6107	7.7929	0.0108		0.7214	0.7214		0.6637	0.6637		1,119.8199	1,119.8199	0.3378		1,126.9132
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0518**	**10.6107**	**7.7929**	**0.0108**		**0.7214**	**0.7214**		**0.6637**	**0.6637**		**1,119.8199**	**1,119.8199**	**0.3378**		**1,126.9132**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0926	0.1168	1.2075	2.0300e-003	0.1643	1.6100e-003	0.1659	0.0436	1.4600e-003	0.0450		168.9480	168.9480	0.0110		169.1787
Total	**0.0926**	**0.1168**	**1.2075**	**2.0300e-003**	**0.1643**	**1.6100e-003**	**0.1659**	**0.0436**	**1.4600e-003**	**0.0450**		**168.9480**	**168.9480**	**0.0110**		**169.1787**

La Bahia, Santa Cruz

Santa Cruz County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	210.00	Space	0.00	61,308.00	0
Hotel	165.00	Room	1.40	132,875.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	4			**Operational Year**	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	348.86	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage: approximately 1.4 acres based on project description.

Construction Phase - Anticipated construction schedule provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Off-road Equipment - Proposed equipment list provided by project applicant.

Demolition - 2,750 tons Demo volume plus 100 CY/tons (CalEEMod assumes 1 CY = 1 ton) during paving.

Grading - 23,500 CY soil hauling export during grading/excavation. 120 CY offsite export for paving (entered for site preparation by CalEEMod default).

APPENDIX E

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	88.00
tblConstructionPhase	NumDays	200.00	263.00
tblConstructionPhase	NumDays	20.00	32.00
tblConstructionPhase	NumDays	4.00	18.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	NumDays	2.00	36.00
tblConstructionPhase	PhaseEndDate	7/18/2016	7/22/2016
tblConstructionPhase	PhaseEndDate	7/9/2015	7/15/2015
tblConstructionPhase	PhaseEndDate	10/31/2016	10/30/2016
tblConstructionPhase	PhaseEndDate	1/12/2017	10/20/2016
tblConstructionPhase	PhaseStartDate	7/16/2015	7/22/2015
tblConstructionPhase	PhaseStartDate	6/16/2015	6/22/2015
tblConstructionPhase	PhaseStartDate	10/21/2016	10/20/2016
tblConstructionPhase	PhaseStartDate	11/24/2016	9/1/2016
tblGrading	AcresOfGrading	1.01	1.50
tblGrading	AcresOfGrading	0.45	1.00
tblGrading	MaterialExported	0.00	23,500.00
tblGrading	MaterialExported	0.00	120.00
tblLandUse	LandUseSquareFeet	84,000.00	61,308.00
tblLandUse	LandUseSquareFeet	239,580.00	132,875.00
tblLandUse	LotAcreage	1.89	0.00
tblLandUse	LotAcreage	5.50	1.40
tblOffRoadEquipment	HorsePower	174.00	165.00
tblOffRoadEquipment	HorsePower	174.00	165.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	80.00	32.00
tblOffRoadEquipment	HorsePower	255.00	90.00
tblOffRoadEquipment	HorsePower	255.00	90.00
tblOffRoadEquipment	HorsePower	97.00	300.00
tblOffRoadEquipment	HorsePower	97.00	230.00

tblOffRoadEquipment	HorsePower	97.00	275.00
tblOffRoadEquipment	HorsePower	97.00	126.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	95.00
tblOffRoadEquipment	HorsePower	97.00	95.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	97.00	87.00
tblOffRoadEquipment	HorsePower	162.00	345.00
tblOffRoadEquipment	HorsePower	84.00	25.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	80.00	130.00
tblOffRoadEquipment	HorsePower	64.00	75.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	UsageHours	6.00	4.10
tblOffRoadEquipment	UsageHours	6.00	0.50
tblOffRoadEquipment	UsageHours	6.00	7.90
tblOffRoadEquipment	UsageHours	6.00	0.90
tblOffRoadEquipment	UsageHours	8.00	0.20
tblOffRoadEquipment	UsageHours	7.00	6.90
tblOffRoadEquipment	UsageHours	7.00	1.10
tblOffRoadEquipment	UsageHours	6.00	7.60
tblOffRoadEquipment	UsageHours	7.00	0.20
tblOffRoadEquipment	UsageHours	6.00	0.40
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	7.00	0.90
tblOffRoadEquipment	UsageHours	7.00	1.80
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	8.00	6.90
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	1.10
tblProjectCharacteristics	CO2IntensityFactor	641.35	348.86
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	WD_TR	8.17	8.11

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	6.1920	71.7346	75.2013	0.1471	9.0269	1.6084	10.6353	4.0139	1.4795	5.4935	0.0000	14,953.0627	14,953.0627	0.9523	0.0000	14,973.0619
2016	53.2983	16.7565	15.6273	0.0222	0.8830	1.1765	1.7009	0.2381	1.1173	1.2946	0.0000	2,146.5625	2,146.5625	0.4432	0.0000	2,155.8705
Total	**59.4904**	**88.4911**	**90.8286**	**0.1693**	**9.9099**	**2.7849**	**12.3362**	**4.2520**	**2.5968**	**6.7880**	**0.0000**	**17,099.6252**	**17,099.6252**	**1.3956**	**0.0000**	**17,128.9324**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2015	6/15/2015	5	32	
2	Grading	Grading	6/22/2015	7/15/2015	5	18	
3	Building Construction	Building Construction	7/22/2015	7/22/2016	5	263	
4	Architectural Coating	Architectural Coating	7/23/2016	11/23/2016	5	88	
5	Site Preparation	Site Preparation	9/1/2016	10/20/2016	5	36	
6	Paving	Paving	10/20/2016	10/30/2016	5	7	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 291,275; Non-Residential Outdoor: 97,092 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

Demolition	Skid Steer Loaders	1	6.30	75	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	300	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	230	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	275	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.30	126	0.37
Grading	Excavators	2	7.60	345	0.38
Grading	Graders	1	0.90	165	0.41
Grading	Rollers	2	0.90	130	0.38
Grading	Rollers	2	1.80	130	0.38
Grading	Rubber Tired Dozers	1	7.60	90	0.40
Grading	Tractors/Loaders/Backhoes	2	0.90	87	0.37
Grading	Tractors/Loaders/Backhoes	2	1.80	87	0.37
Building Construction	Cranes	1	0.50	226	0.29
Building Construction	Forklifts	2	7.90	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	0.40	97	0.37
Building Construction	Welders	3	1.10	46	0.45
Architectural Coating	Air Compressors	3	4.10	78	0.48
Architectural Coating	Pumps	1	3.20	25	0.74
Site Preparation	Graders	1	0.20	165	0.41
Site Preparation	Rubber Tired Dozers	1	0.20	90	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	6.00	125	0.42
Paving	Paving Equipment	0	8.00	130	0.36
Paving	Rollers	1	6.90	130	0.38
Paving	Rollers	1	1.10	32	0.38
Paving	Tractors/Loaders/Backhoes	1	3.40	87	0.37
Paving	Tractors/Loaders/Backhoes	1	3.40	95	0.37
Paving	Tractors/Loaders/Backhoes	1	2.30	95	0.37
Paving	Tractors/Loaders/Backhoes	1	2.30	87	0.37

Paving	Tractors/Loaders/Backhoes	1	6.90	87	0.37
Paving	Tractors/Loaders/Backhoes	1	1.10	87	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	282.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	0.00	2,938.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	82.00	32.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	15.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Demolition - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.9059	0.0000	1.9059	0.2886	0.0000	0.2886			0.0000			0.0000
Off-Road	1.6930	23.1024	10.5853	0.0252		0.8673	0.8673		0.7979	0.7979		2,641.4441	2,641.4441	0.7886		2,658.0044
Total	**1.6930**	**23.1024**	**10.5853**	**0.0252**	**1.9059**	**0.8673**	**2.7731**	**0.2886**	**0.7979**	**1.0865**		**2,641.4441**	**2,641.4441**	**0.7886**		**2,658.0044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day					
Hauling	0.2404	2.7756	3.4246	6.3400e-003	0.1524	0.0428	0.1953	0.0417	0.0394	0.0811		642.1500	642.1500	5.1500e-003		642.2581
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0759	0.1068	0.9622	1.2600e-003	0.1068	1.1300e-003	0.1079	0.0283	1.0300e-003	0.0294		108.4677	108.4677	7.9700e-003		108.6350
Total	**0.3163**	**2.8824**	**4.3868**	**7.6000e-003**	**0.2592**	**0.0440**	**0.3032**	**0.0700**	**0.0404**	**0.1104**		**750.6177**	**750.6177**	**0.0131**		**750.8931**

3.3 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					5.9570	0.0000	5.9570	3.1766	0.0000	3.1766			0.0000			0.0000
Off-Road	1.5649	20.0799	9.5519	0.0268		0.8124	0.8124		0.7474	0.7474		2,809.0624	2,809.0624	0.8386		2,826.6735
Total	**1.5649**	**20.0799**	**9.5519**	**0.0268**	**5.9570**	**0.8124**	**6.7694**	**3.1766**	**0.7474**	**3.9240**		**2,809.0624**	**2,809.0624**	**0.8386**		**2,826.6735**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	4.4521	51.4082	63.4290	0.1174	2.8235	0.7934	3.6169	0.7720	0.7298	1.5017		11,893.6902	11,893.6902	0.0953		11,895.6922
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.1751	0.2465	2.2204	2.9000e-003	0.2464	2.6100e-003	0.2491	0.0654	2.3700e-003	0.0677		250.3101	250.3101	0.0184		250.6963
Total	**4.6272**	**51.6547**	**65.6495**	**0.1203**	**3.0699**	**0.7960**	**3.8659**	**0.8373**	**0.7321**	**1.5694**		**12,144.0003**	**12,144.0003**	**0.1137**		**12,146.3884**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8172	5.7566	3.7913	4.7300e-003		0.4606	0.4606		0.4289	0.4289		472.0799	472.0799	0.1386		474.9900
Total	**0.8172**	**5.7566**	**3.7913**	**4.7300e-003**		**0.4606**	**0.4606**		**0.4289**	**0.4289**		**472.0799**	**472.0799**	**0.1386**		**474.9900**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5324	3.6424	6.9756	7.3400e-003	0.2093	0.0619	0.2712	0.0594	0.0569	0.1162		736.1702	736.1702	6.9000e-003		736.3150
Worker	0.4786	0.6737	6.0692	7.9400e-003	0.6736	7.1300e-003	0.6807	0.1787	6.4700e-003	0.1851		684.1808	684.1808	0.0503		685.2364
Total	**1.0110**	**4.3161**	**13.0447**	**0.0153**	**0.8829**	**0.0690**	**0.9519**	**0.2380**	**0.0633**	**0.3014**		**1,420.3510**	**1,420.3510**	**0.0572**		**1,421.5514**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7592	5.4598	3.7347	4.7300e-003		0.4304	0.4304		0.4007	0.4007		468.0678	468.0678	0.1362		470.9270
Total	**0.7592**	**5.4598**	**3.7347**	**4.7300e-003**		**0.4304**	**0.4304**		**0.4007**	**0.4007**		**468.0678**	**468.0678**	**0.1362**		**470.9270**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4850	3.1779	6.5945	7.3400e-003	0.2094	0.0518	0.2612	0.0594	0.0476	0.1070		729.2605	729.2605	6.2100e-003		729.3909
Worker	0.4127	0.5946	5.2981	7.9200e-003	0.6736	6.5800e-003	0.6802	0.1787	6.0100e-003	0.1847		660.1755	660.1755	0.0451		661.1216
Total	**0.8976**	**3.7725**	**11.8926**	**0.0153**	**0.8830**	**0.0584**	**0.9414**	**0.2381**	**0.0536**	**0.2917**		**1,389.4360**	**1,389.4360**	**0.0513**		**1,390.5125**

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Archit. Coating	51.1387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8669	5.4899	4.2019	7.0100e-003		0.4363	0.4363		0.4363	0.4363		651.1393	651.1393	0.0781		652.7788
Total	**52.0056**	**5.4899**	**4.2019**	**7.0100e-003**		**0.4363**	**0.4363**		**0.4363**	**0.4363**		**651.1393**	**651.1393**	**0.0781**		**652.7788**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0805	0.1160	1.0338	1.5500e-003	0.1314	1.2800e-003	0.1327	0.0349	1.1700e-003	0.0360		128.8147	128.8147	8.7900e-003		128.9993
Total	**0.0805**	**0.1160**	**1.0338**	**1.5500e-003**	**0.1314**	**1.2800e-003**	**0.1327**	**0.0349**	**1.1700e-003**	**0.0360**		**128.8147**	**128.8147**	**8.7900e-003**		**128.9993**

3.6 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1804	0.0000	0.1804	0.0860	0.0000	0.0860			0.0000			0.0000
Off-Road	0.0242	0.2461	0.1168	1.5000e-004		0.0138	0.0138		0.0127	0.0127		15.3954	15.3954	4.6400e-003		15.4929

Total	**0.0242**	**0.2461**	**0.1168**	**1.5000e-004**	**0.1804**	**0.0138**	**0.1942**	**0.0860**	**0.0127**	**0.0987**		**15.3954**	**15.3954**	**4.6400e-003**		**15.4929**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0105	0.1125	0.1545	3.0000e-004	7.2100e-003	1.6500e-003	8.8600e-003	1.9700e-003	1.5200e-003	3.4900e-003		30.1202	30.1202	2.2000e-004		30.1248
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0252	0.0363	0.3231	4.8000e-004	0.0411	4.0000e-004	0.0415	0.0109	3.7000e-004	0.0113		40.2546	40.2546	2.7500e-003		40.3123
Total	**0.0357**	**0.1487**	**0.4776**	**7.8000e-004**	**0.0483**	**2.0500e-003**	**0.0503**	**0.0129**	**1.8900e-003**	**0.0148**		**70.3748**	**70.3748**	**2.9700e-003**		**70.4371**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0518	10.6107	7.7929	0.0108		0.7214	0.7214		0.6637	0.6637		1,119.8199	1,119.8199	0.3378		1,126.9132
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0518**	**10.6107**	**7.7929**	**0.0108**		**0.7214**	**0.7214**		**0.6637**	**0.6637**		**1,119.8199**	**1,119.8199**	**0.3378**		**1,126.9132**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1007	0.1450	1.2922	1.9300e-003	0.1643	1.6100e-003	0.1659	0.0436	1.4600e-003	0.0450		161.0184	161.0184	0.0110		161.2492
Total	**0.1007**	**0.1450**	**1.2922**	**1.9300e-003**	**0.1643**	**1.6100e-003**	**0.1659**	**0.0436**	**1.4600e-003**	**0.0450**		**161.0184**	**161.0184**	**0.0110**		**161.2492**