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December 6, 2013

Ms. Patricia Kelly
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Redondo Beach Energy Project (12-AFC-03)
Data Response Set 1A – Responses to CEC Staff Data Requests 8, 10, 13, 20-23

Dear Ms. Kelly:

Attached please find the Redondo Beach Energy Project's Data Response Set 1A, including responses to Data Requests 8, 10, 13, and 20-23. This Data Response Set was prepared in response to California Energy Commission Staff Data Requests 1 through 47 for the Application for Certification for the Redondo Beach Energy Project (12-AFC-03) dated October 15, 2013. The Applicant requested additional time to prepare responses to Data Requests 8–10, 13, and 20–23 on November 14, 2013. Please note the following three items:

- The Applicant is continuing to request emissions data from SCAQMD to resolve Data Request 13. Staff approved the preliminary list of cumulative sources at the December 5th Data Request Workshop. During the Workshop, the Applicant committed to provide a proposed source screening methodology to identify emissions sources reasonably expected to significantly contribute to RBEP's air quality impacts. The Applicant will provide this proposed methodology by the end of December and will submit a response to Data Request 13 within 6 weeks of receipt of Staff's approval of said methodology.
- Data Response 9 will be provided on December 9, 2013.
- Modeling files discussed in this Data Response set will be provided in electronic copy on December 9, 2013.

If you have any questions about this matter, please contact me at (916) 286-0249 or Mr. Jerry Salamy at (916) 286-0207.

Sincerely,

CH2M HILL

Sarah Madams
AFC Project Manager

Attachment
cc: S. O'Kane, AES
G. Wheatland, ESH
J. Salamy, CH2M HILL

Redondo Beach Energy Project

(12-AFC-03)

Data Responses, Set 1A

(Responses to Data Requests 8,10,13, and 20-24)

Submitted to

California Energy Commission

Prepared by

AES Southland Development, LLC

With Assistance from

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December 6, 2013

Contents

Tables

Figures (provided at the end of their respective sections)

Attachments (provided at the end of their respective sections)

Introduction

Attached are AES Southland Development, LLC's (AES-SLD or the Applicant) responses to the California Energy Commission (CEC) Data Request, Set 1A (numbers 8-10, 13, and 20-24) regarding the Redondo Beach Energy Project (RBEP) (12-AFC-03) Application for Certification (AFC).

The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as the CEC presented them and are keyed to the Data Request numbers (8-10, 13, and 20-24).

New or revised graphics or tables are numbered in reference to the Data Request number. For example, the first table used in response to Data Request 9 would be numbered Table DR9-1. The first figure used in response to Data Request 22 would be numbered Figure DR22-1, and so on. Figures or tables from the RBEP AFC that have been revised have "R" following the original number, indicating a revision.

Additional tables, figures, or documents submitted in response to a data request (for example, supporting data, standalone documents such as plans, folding graphics, etc.) are found at the end of each discipline-specific section and are not sequentially page-numbered consistently with the remainder of the document, though they may have their own internal page numbering system.

Air Quality (8, 10, and 13)

Demolition and Operation Overlap Impacts: Background

AFC Section 5.1.1 explains that the first activities to occur onsite would be the dismantling and partial removal of existing units 1-4 starting the first quarter of 2016, while the existing units 5-8 and auxiliary boiler number 17 would remain in service until the second quarter of 2018. The construction and demolition emission estimates in AFC Appendix 5.1A do not appear to include simultaneous operation of the existing power plant or the proposed RBEP. Staff needs to evaluate the impacts associated with the overlap in emissions from demolition of units 1-4 and potential worst-case permitted operation of units 5-8 and auxiliary boiler number 17. Similarly, staff needs to evaluate the impacts associated with the overlap in emissions from operation of the proposed RBEP during demolition of units 5-8 and auxiliary boiler number 17.

DATA REQUEST

8. Please model the impacts from emissions associated with the demolition of units 1–4 and simultaneous operation of units 5–8 and auxiliary boiler 17, as quantified in the prior data request.

Response: The Redondo Beach Generating Station Units 5-8 and auxiliary boiler 17 are existing sources which currently contribute to the ambient air background levels. The Applicant has requested the South Coast Air Quality Management District (SCAQMD) designate auxiliary boiler 17 as non-operated major source as defined under SCAQMD Rule 2012. On November 19, 2013 the SCAQMD approved this request and amended the RECLAIM/Title V Permit for the AES Redondo Beach Generating Station (Facility ID: 115536). Per the permit conditions, the fuel line has been disconnected from auxiliary boiler 17 and the burners removed. Therefore, operating emissions for auxiliary boiler 17 are not included in this analysis.

A modeling analysis was conducted using the Redondo Beach Generating Station's (RBGS) past actual emissions shown in Table DR7-1, which was submitted to the CEC on November 12, 2013, along with the worst-case short-term and annual emissions associated with the demolition of RBGS Units 1-4, as shown in Attachment DR8-1.[1] Meteorological data and model settings were the same as outlined in AFC Section 5.1.6.3, with the following refinements:

- Stack height, stack temperature, exit velocity, and stack diameter for RBGS Units 5-8 were taken from the most recent source test data provided by the Applicant.[2]
- Modeling of 1-hour and annual nitrogen dioxide (NO_2) was performed using the U.S. Environmental Protection Agency (EPA)-recommended Tier 2 oxides of nitrogen (NO_x) to NO_2 ambient ratio of 0.80 (EPA, 2011) and 0.75 (EPA, 2005), respectively.
- Modeling scenarios that were expected to have high 1-hour NO_2 impacts were refined as follows:
    - The 98th percentile seasonal, hour-of-day background NO_2 concentrations were added to the modeled impacts to demonstrate compliance with the National Ambient Air Quality Standards

[1] Attachment DR8-1 is included with this submission on compact disc and contains revised construction emissions spreadsheets for AFC Appendix 5.1AR. These spreadsheets have been revised from those submitted on November 12, 2013 to address errors in the documentation for the fugitive dust calculation as noted by the CEC.

[2] Note that RBGS's auxiliary boiler 17 was excluded from this modeling analysis because it now has a non-operational status on the RBGS Title V permit.

(NAAQS); the background concentrations were provided by the SCAQMD for years 2009 through 2011.

- The modeled hours were limited to between 7:00 a.m. and 6:00 p.m. to best align with the Applicant's commitment to limiting noisy construction or demolition work, as discussed in AFC Section 5.7.3.2.1.

Beyond the revisions to the modeling methodology set forth above, the Applicant also updated the characterization of construction emission sources. As described in AFC Section 5.1.6.3, the original construction impact analysis characterized construction equipment exhaust emissions as elevated volume sources. As part of this revised impact analysis, exhaust emissions were instead modeled as point sources spaced approximately 25 meters (m) apart over the construction area. The construction equipment exhausts were assumed to be horizontal stack releases. The horizontal release type is an American Meteorological Society/EPA Regulatory Model (AERMOD) beta option (i.e., non-regulatory default option), which negates mechanical plume rise; this conservative approach was used because it is unknown whether the construction equipment will have vertically oriented exhaust stacks. Stack release parameters were selected based on data for typical construction equipment, which consist of a stack release temperature of 533 degrees Kelvin (K; 500 degrees Fahrenheit [°F]), a stack diameter of 0.127 m (5 inches), and a release height of 4.6 m (15 feet).

Table DR8-1 presents a comparison of the maximum modeled concentrations to the ambient air quality standards (AAQS). As shown, the maximum sulfur dioxide (SO_2), and carbon monoxide (CO) concentrations combined with the background concentrations do not exceed the AAQS. The maximum 1-hour NO_2 impacts did exceed the NAAQS only six times over the 5-year modeling period. However, the 8th highest modeled concentration combined with the 98th percentile background concentration in each year was below the NAAQS. Therefore, operation of RBGS Units 5-8 with demolition of RBGS Units 1-4 will not cause or contribute to the violation of a standard, and the NO_2, SO_2, and CO impacts will be less than significant.

The particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}) background concentrations exceed the state AAQS without adding the modeled concentrations. Similarly, the particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$) background concentrations exceed both the state and federal AAQS without adding the modeled concentrations. As a result, when the predicted concentrations of PM_{10} and $PM_{2.5}$ resulting from the operation of RBGS Units 5-8 and the concurrent demolition of RBGS Units 1-4 are added to background PM_{10} and $PM_{2.5}$ concentrations, the total concentration will be greater than the AAQS. The modeling analysis demonstrates that fugitive dust is a significant contributor to the predicted concentrations, and the maximum PM_{10} and $PM_{2.5}$ concentrations will remain near the property boundary.

A summary of the dispersion modeling input files for operation of RBGS Units 5-8 with demolition of RBGS Units 1-4, as well as the complete modeling results, are presented in Attachment DR8-2. The AERMOD input and output files have been separately prepared and are included with this submission on compact disc.

References:

U.S. Environmental Protection Agency (EPA). 2005. *Guideline on Air Quality Models, 40 Code of Federal Regulations, Part 51, Appendix W*. November.

U.S. Environmental Protection Agency (EPA). 2011. *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard*. March.

TABLE DR8-1

Maximum Modeled Impacts from RBGS Units 5-8 Operation with Demolition of RBGS Units 1-4 Compared to the Ambient Air Quality Standards

Pollutant	Averaging Time	Maximum Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$) [a]	Total Predicted Concentration ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
NO_2 [b]	1-hour	114	169	283	339	—
	Federal 1-hour [c]	-	-	173	—	188
	Annual	6.65	29.9	36.6	57	100
SO_2	1-hour	0.14	67.8	67.9	655	—
	Federal 1-hour [d]	0.14	37.5	37.6	—	196
	3-hour	0.14	38.7	38.8	—	1,300
	24-hour	0.04	15.7	15.7	105	365
CO	1-hour	72.0	4,581	4,653	23,000	40,000
	8-hour	58.5	2,863	2,922	10,000	10,000
PM_{10}	24-hour	28.9	52.0	80.9	50	150
	Annual	8.93	25.6	34.5	20	—
$PM_{2.5}$	24-hour [e]	4.11	35.3	39.4	—	35
	Annual	1.28	15.5	16.8	12	12

[a] Background concentrations were the highest concentrations monitored during 2008 through 2010.

[b] The maximum 1-hour and annual NO_2 concentrations include ambient NO_2 ratios of 0.80 (EPA, 2011) and 0.75 (EPA, 2005), respectively.

[c] Total predicted concentration for the federal 1-hour NO_2 standard is the high 8th high pairing of modeled concentration with the 3-year average of 98th percentile seasonal, hourly background concentration, as provided by the SCAQMD.

[d] Total predicted concentration for the federal 1-hour SO_2 standard is the maximum modeled concentration combined with the 3-year average of 99th percentile background concentrations.

[e] Total predicted concentration for the federal 24-hour $PM_{2.5}$ standard is the maximum modeled concentration combined with the 3-year average of 98th percentile background concentrations.

DATA REQUEST

9. Please model the impacts from emissions associated with the demolition of units 5–8 and auxiliary boiler 17 and simultaneous operation of the proposed RBEP.

Response: Modeling results for the demolition of units 5-8 and auxiliary boiler 17 and simultaneous operation of RBEP will be provided on Monday, December 9th.

Commissioning Impacts: Background

Section 5.1.6.1.2 and Section 5.1.6.3 (Table 5.1-28) of the AFC say that the annual-average impacts for the commissioning period were not evaluated because commissioning is expected to be completed within 180 days and the combined commissioning and operation emissions for a rolling 12-month period are not expected to exceed the maximum permitted annual emissions evaluated in Section 5.1.6.1. However, Section 5.1.8.2.2 estimates SCAQMD nitrogen oxides (NOx) RECLAIM requirements to be higher for the first year of operation than that of subsequent years due to commissioning and worst case routine annual operations occurring in the same (first) year. Staff needs to evaluate the annual impacts for the commissioning period plus routine operation for the remainder of that year to determine compliance with the corresponding ambient air quality standards.

DATA REQUEST

10. Please provide air quality modeling for the annual impacts during the commissioning phase and subsequent operations to determine compliance with the annual-average ambient air quality standards.

Response: Annual emissions for the combined commissioning and operation of the power block for a rolling 12-month period are shown in Table DR10-1.

TABLE DR10-1
RBEP Turbine Commissioning Emission Rate

Activity	NO_x	PM_{10}	$PM_{2.5}$
Total Commissioning Emissions, tons (3 x 1 block) [a]	12.4	4.39	4.39
Annual Operation Emissions, tons (3 x 1 block) [b]	121	49.7	49.7
Total Commissioning/Operation Period, tons (3 x 1 block)	133	54.1	54.1

[a] Total commissioning emissions are from AFC Table 5.1-12.
[b] Annual operation emissions are from AFC Table 5.1-17.

Modeled impacts from the combined commissioning and operation of the power block were evaluated according to the meteorological data and model settings outlined in AFC Section 5.1.6.3, using stack temperature and exit velocity based on the worst-case annual impacts for each pollutant.

Table DR10-2 presents a comparison of the maximum annual modeled concentrations to the AAQS. As shown, the maximum annual NO_2 concentration combined with the background concentration does not exceed the AAQS. Therefore, combined commissioning and operation of the power block will not cause or contribute to the violation of a standard, and the NO_2 impact will be less than significant.

The background PM_{10} concentration exceeds the state AAQS without adding the modeled concentration. Similarly, the $PM_{2.5}$ background $PM_{2.5}$ concentration exceeds both the state and federal AAQS without adding the modeled concentration. As a result, when the predicted PM_{10} and $PM_{2.5}$ concentrations resulting from the combined commissioning and operation of the power block are added to existing background PM_{10} and $PM_{2.5}$ concentrations, the total concentration will be greater than the AAQS.

A summary of the dispersion modeling input files for combined commissioning and operation of the power block, as well as the complete modeling results, are presented in Attachment DR10-1. The AERMOD input and output files have been separately prepared and are included with this submission on compact disc.

TABLE DR10-2
Maximum Annual Modeled Impacts from RBEP Commissioning and Operation Compared to Ambient Air Quality Standards

Pollutant	Averaging Time	Maximum Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$) [a]	Total Predicted Concentration ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
NO_2 [b]	Annual	0.43	29.9	30.3	57	100
PM_{10}	Annual	0.23	25.6	25.8	20	—
$PM_{2.5}$	Annual	0.23	15.5	15.7	12	12

[a] Background concentrations were the highest concentrations monitored during 2008 through 2010.
[b] The annual NO_2 concentration includes an ambient NO_2 ratio of 0.75 (EPA, 2005).

References:

U.S. Environmental Protection Agency (EPA). 2005. *Guideline on Air Quality Models, 40 Code of Federal Regulations, Part 51, Appendix W*. November.

Cumulative Impacts: Background

Section 5.1.7 and Appendix 5.1F, Section 8, of the AFC, describe the methodology for the cumulative effects analysis, but the AFC does not include the analysis because a project list had not been provided by the District at the time the AFC was prepared. The cumulative analysis should include all reasonably foreseeable

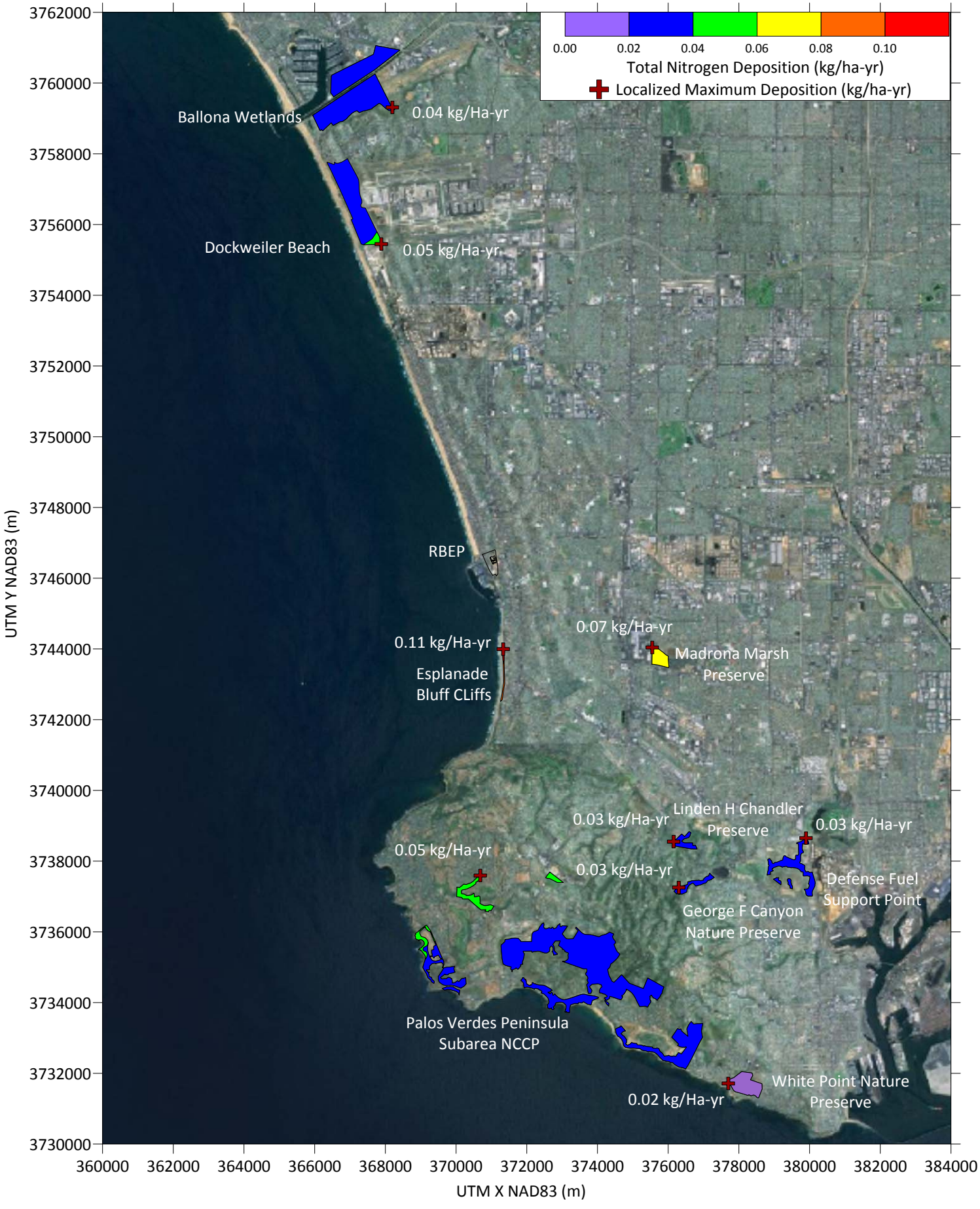
projects within a six mile radius, i.e. projects that have received construction permits but are not yet operational, and those that are in the permitting process or can be reasonably expected to be in permitting in the near future. A complete impacts analysis should identify all existing and planned stationary sources that affect the baseline conditions and consider them in the modeling effort.

DATA REQUEST

13. Upon approval of the list of sources to be included in the cumulative air quality impact analysis, please provide the cumulative modeling and impact analysis.

Response: The Applicant is continuing to request emissions data from the SCAQMD and will prepare a list of sources and modeling parameters for CEC review and approval when the data is received. The results of the cumulative air quality impact analysis will be provided within 30 business days of CEC Staff's approval of the proposed list and stack parameters.

Figure DR22-1: RBEP Total Nitrogen Deposition on Surrounding Habitats



Attachment DR8-1
Revised RBEP Construction Emission Calculation Files

Redondo Beach Energy Project
Construction Emission Estimates - Demolition of Units 1-4
December 2013

Table 5.1A.1R Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from Demolition of Units 1-4

	CO Emisisons (lbs/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	145.30	145.30	145.30	145.30	145.30	145.30	145.30	145.30	145.30	145.30	145.30	145.30
Excavator	168.60	168.60	168.60	168.60	168.60	168.60	168.60	168.60	168.60	168.60	168.60	168.60
Cranes	167.33	167.33	167.33	167.33	167.33	167.33	167.33	167.33	167.33	167.33	167.33	167.33
Rubber Tired Loader	87.47	87.47	87.47	87.47	87.47	87.47	87.47	87.47	87.47	87.47	87.47	87.47
Generator Sets	0.00	0.00	65.60	131.21	131.21	131.21	0.00	0.00	65.60	131.21	131.21	131.21
Air Compressor	115.54	115.54	115.54	115.54	115.54	115.54	115.54	115.54	115.54	115.54	115.54	115.54
Forklift	54.47	54.47	54.47	54.47	54.47	54.47	54.47	54.47	54.47	54.47	54.47	54.47
Onsite Total (lbs/month)	**738.71**	**738.71**	**804.32**	**869.92**	**869.92**	**869.92**	**738.71**	**738.71**	**804.32**	**869.92**	**869.92**	**869.92**
Onsite Total (lbs/day) [a]	**32.12**	**32.12**	**34.97**	**37.82**	**37.82**	**37.82**	**32.12**	**32.12**	**34.97**	**37.82**	**37.82**	**37.82**
Maximum Annual Total (tons/year)	**4.89**											

Construction Equipment VOC Emissions from Demolition of Units 1-4

	VOC Emisisons (lbs/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	27.08	27.08	27.08	27.08	27.08	27.08	27.08	27.08	27.08	27.08	27.08	27.08
Excavator	19.09	19.09	19.09	19.09	19.09	19.09	19.09	19.09	19.09	19.09	19.09	19.09
Cranes	40.37	40.37	40.37	40.37	40.37	40.37	40.37	40.37	40.37	40.37	40.37	40.37
Rubber Tired Loader	23.69	23.69	23.69	23.69	23.69	23.69	23.69	23.69	23.69	23.69	23.69	23.69
Generator Sets	0.00	0.00	11.03	22.05	22.05	22.05	0.00	0.00	11.03	22.05	22.05	22.05
Air Compressor	22.60	22.60	22.60	22.60	22.60	22.60	22.60	22.60	22.60	22.60	22.60	22.60
Forklift	9.79	9.79	9.79	9.79	9.79	9.79	9.79	9.79	9.79	9.79	9.79	9.79
Onsite Total (lbs/month)	**142.61**	**142.61**	**153.64**	**164.66**	**164.66**	**164.66**	**142.61**	**142.61**	**153.64**	**164.66**	**164.66**	**164.66**
Onsite Total (lbs/day) [a]	**6.20**	**6.20**	**6.68**	**7.16**	**7.16**	**7.16**	**6.20**	**6.20**	**6.68**	**7.16**	**7.16**	**7.16**
Maximum Annual Total (tons/year)	**0.93**											

Construction Equipment NOx Emissions from Demolition of Units 1-4

	NOx Emissions (lbs/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	311.99	311.99	311.99	311.99	311.99	311.99	311.99	311.99	311.99	311.99	311.99	311.99
Excavator	217.89	217.89	217.89	217.89	217.89	217.89	217.89	217.89	217.89	217.89	217.89	217.89
Cranes	478.29	478.29	478.29	478.29	478.29	478.29	478.29	478.29	478.29	478.29	478.29	478.29
Rubber Tired Loader	308.12	308.12	308.12	308.12	308.12	308.12	308.12	308.12	308.12	308.12	308.12	308.12
Generator Sets	0.00	0.00	83.40	166.80	166.80	166.80	0.00	0.00	83.40	166.80	166.80	166.80
Air Compressor	145.49	145.49	145.49	145.49	145.49	145.49	145.49	145.49	145.49	145.49	145.49	145.49
Forklift	84.23	84.23	84.23	84.23	84.23	84.23	84.23	84.23	84.23	84.23	84.23	84.23
Onsite Total (lbs/month)	**1,546.02**	**1,546.02**	**1,629.42**	**1,712.82**	**1,712.82**	**1,712.82**	**1,546.02**	**1,546.02**	**1,629.42**	**1,712.82**	**1,712.82**	**1,712.82**
Onsite Total (lbs/day) [a]	**67.22**	**67.22**	**70.84**	**74.47**	**74.47**	**74.47**	**67.22**	**67.22**	**70.84**	**74.47**	**74.47**	**74.47**
Maximum Annual Total (tons/year)	**9.86**											

Table 5.1A.1R Onsite Construction Equipment Exhaust Emissions

Construction Equipment SOx Emissions from Demolition of Units 1-4

	SOx Emissions (lbs/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Excavator	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Cranes	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Rubber Tired Loader	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Generator Sets	0.00	0.00	0.11	0.23	0.23	0.23	0.00	0.00	0.11	0.23	0.23	0.23
Air Compressor	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Forklift	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Onsite Total (lbs/month)	**1.49**	**1.49**	**1.61**	**1.72**	**1.72**	**1.72**	**1.49**	**1.49**	**1.61**	**1.72**	**1.72**	**1.72**
Onsite Total (lbs/day) [a]	**0.06**	**0.06**	**0.07**	**0.07**	**0.07**	**0.07**	**0.06**	**0.06**	**0.07**	**0.07**	**0.07**	**0.07**
Maximum Annual Total (tons/year)	**0.01**											

Construction Equipment PM_{10} Emissions from Demolition of Units 1-4

	PM_{10} Emissions (lbs/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77	11.77
Excavator	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72	10.72
Cranes	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70
Rubber Tired Loader	10.51	10.51	10.51	10.51	10.51	10.51	10.51	10.51	10.51	10.51	10.51	10.51
Generator Sets	0.00	0.00	5.84	11.69	11.69	11.69	0.00	0.00	5.84	11.69	11.69	11.69
Air Compressor	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06
Forklift	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04	7.04
Onsite Total (lbs/month)	**73.81**	**73.81**	**79.65**	**85.49**	**85.49**	**85.49**	**73.81**	**73.81**	**79.65**	**85.49**	**85.49**	**85.49**
Onsite Total (lbs/day) [a]	**3.21**	**3.21**	**3.46**	**3.72**	**3.72**	**3.72**	**3.21**	**3.21**	**3.46**	**3.72**	**3.72**	**3.72**
Maximum Annual Total (tons/year)	**0.48**											

Construction Equipment $PM_{2.5}$ Emissions from Demolition of Units 1-4

	$PM_{2.5}$ Emissions (lbs/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83
Excavator	9.86	9.86	9.86	9.86	9.86	9.86	9.86	9.86	9.86	9.86	9.86	9.86
Cranes	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97
Rubber Tired Loader	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67
Generator Sets	0.00	0.00	5.84	11.69	11.69	11.69	0.00	0.00	5.84	11.69	11.69	11.69
Air Compressor	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06	12.06
Forklift	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48
Onsite Total (lbs/month)	**68.86**	**68.86**	**74.71**	**80.55**	**80.55**	**80.55**	**68.86**	**68.86**	**74.71**	**80.55**	**80.55**	**80.55**
Onsite Total (lbs/day) [a]	**2.99**	**2.99**	**3.25**	**3.50**	**3.50**	**3.50**	**2.99**	**2.99**	**3.25**	**3.50**	**3.50**	**3.50**
Maximum Annual Total (tons/year)	**0.45**											

Table 5.1A.1R Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO_2 Emissions from Demolition of Units 1-4

	CO_2 Emissions (metric tons/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	28.95	28.95	28.95	28.95	28.95	28.95	28.95	28.95	28.95	28.95	28.95	28.95
Excavator	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
Cranes	23.26	23.26	23.26	23.26	23.26	23.26	23.26	23.26	23.26	23.26	23.26	23.26
Rubber Tired Loader	26.15	26.15	26.15	26.15	26.15	26.15	26.15	26.15	26.15	26.15	26.15	26.15
Generator Sets	0.00	0.00	5.02	10.03	10.03	10.03	0.00	0.00	5.02	10.03	10.03	10.03
Air Compressor	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08	8.08
Forklift	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04
Onsite Total (metric tons/month)	**111.89**	**111.89**	**116.90**	**121.92**	**121.92**	**121.92**	**111.89**	**111.89**	**116.90**	**121.92**	**121.92**	**121.92**
Onsite Total (metric tons/day) [a]	**4.86**	**4.86**	**5.08**	**5.30**	**5.30**	**5.30**	**4.86**	**4.86**	**5.08**	**5.30**	**5.30**	**5.30**
Maximum Annual Total (tons/year)	**1,412.85**											

Construction Equipment N_2O Emissions from Demolition of Units 1-4

	N_2O Emissions (metric tons/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Excavator	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Cranes	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Rubber Tired Loader	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Generator Sets	0.0000	0.0000	0.0001	0.0003	0.0003	0.0003	0.0000	0.0000	0.0001	0.0003	0.0003	0.0003
Air Compressor	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Forklift	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Onsite Total (metric tons/month)	**0.0028**	**0.0028**	**0.0030**	**0.0031**	**0.0031**	**0.0031**	**0.0028**	**0.0028**	**0.0030**	**0.0031**	**0.0031**	**0.0031**
Onsite Total (metric tons/day) [a]	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Maximum Annual Total (tons/year)	**0.0360**											

Construction Equipment CH_4 Emissions from Demolition of Units 1-4

	CH_4 Emissions (metric tons/month)											
Onsite Equipment	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Water Truck	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
Excavator	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
Cranes	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Rubber Tired Loader	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Generator Sets	0.0000	0.0000	0.0003	0.0006	0.0006	0.0006	0.0000	0.0000	0.0003	0.0006	0.0006	0.0006
Air Compressor	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Forklift	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Onsite Total (metric tons/month)	**0.0064**	**0.0064**	**0.0066**	**0.0069**	**0.0069**	**0.0069**	**0.0064**	**0.0064**	**0.0066**	**0.0069**	**0.0069**	**0.0069**
Onsite Total (metric tons/day) [a]	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**
Maximum Annual Total (tons/year)	**0.0803**											

Notes:

[a] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls', the days per month are as follows: 23

Table 5.1A.2R Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle CO Emissions from Demolition of Units 1-4

	CO Emissions (lbs/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Onsite Stake Truck	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Onsite Dump Truck	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Onsite Total (lbs/day)	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**
	CO Emissions (lbs/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Onsite Stake Truck	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Onsite Dump Truck	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
Onsite Total (lbs/month)	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**	**2.97**
Maximum Annual Total (tons/year)	**0.02**											

Onsite Construction Vehicle VOC Emissions from Demolition of Units 1-4

	VOC Emisisons (lbs/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Onsite Stake Truck	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
Onsite Dump Truck	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042
Onsite Total (lbs/day)	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**	**0.058**
	VOC Emissions (lbs/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Onsite Stake Truck	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Onsite Dump Truck	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Onsite Total (lbs/month)	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**	**1.32**
Maximum Annual Total (tons/year)	**0.01**											

Onsite Construction Vehicle SOx Emissions from Demolition of Units 1-4

	SOx Emissions (lbs/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002
Onsite Stake Truck	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007
Onsite Dump Truck	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022	0.00022
Onsite Total (lbs/day)	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**	**0.00031**
	SOx Emissions (lbs/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046
Onsite Stake Truck	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167
Onsite Dump Truck	0.00502	0.00502	0.00502	0.00502	0.00502	0.00502	0.00502	0.00502	0.00502	0.00502	0.00502	0.00502
Onsite Total (lbs/month)	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**	**0.00715**
Maximum Annual Total (tons/year)	**0.00004**											

Table 5.1A.2R Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle NOx Emissions from Demolition of Units 1-4

	NOx Emissions (lbs/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Onsite Stake Truck	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087
Onsite Dump Truck	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261	0.261
Onsite Total (lbs/day)	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**
	NOx Emissions (lbs/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Onsite Stake Truck	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Onsite Dump Truck	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Onsite Total (lbs/month)	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**	**8.05**
Maximum Annual Total (tons/year)	**0.05**											

Onsite Construction Vehicle PM_{10} Emissions from Demolition of Units 1-4

	PM_{10} Emissions (lbs/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Onsite Stake Truck	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011
Onsite Dump Truck	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033
Onsite Total (lbs/day)	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**
	PM_{10} Emissions (lbs/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063
Onsite Stake Truck	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255
Onsite Dump Truck	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766
Onsite Total (lbs/month)	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**	**0.1084**
Maximum Annual Total (tons/year)	**0.0007**											

Onsite Construction Vehicle $PM_{2.5}$ Emissions from Demolition of Units 1-4

	$PM_{2.5}$ Emissions (lbs/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Onsite Stake Truck	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Onsite Dump Truck	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024
Onsite Total (lbs/day)	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**	**0.0033**
	$PM_{2.5}$ Emissions (lbs/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034
Onsite Stake Truck	0.0181	0.0181	0.0181	0.0181	0.0181	0.0181	0.0181	0.0181	0.0181	0.0181	0.0181	0.0181
Onsite Dump Truck	0.0542	0.0542	0.0542	0.0542	0.0542	0.0542	0.0542	0.0542	0.0542	0.0542	0.0542	0.0542
Onsite Total (lbs/month)	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**	**0.0757**
Maximum Annual Total (tons/year)	**0.0005**											

Table 5.1A.2R Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle CO_2 Emissions from Demolition of Units 1-4

	CO_2 Emissions (metric tons/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Onsite Stake Truck	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Onsite Dump Truck	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Onsite Total (metric tons/day)	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**	**0.016**
	CO_2 Emissions (metric tons/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Onsite Stake Truck	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Onsite Dump Truck	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Onsite Total (metric tons/month)	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**
Maximum Annual Total (tons/year)	**4.32**											

Onsite Construction Vehicle N_2O Emissions from Demolition of Units 1-4

	N_2O Emissions (metric tons/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Stake Truck	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Dump Truck	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003
Onsite Total (metric tons/day)	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**
	N_2O Emissions (metric tons/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003
Onsite Stake Truck	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002
Onsite Dump Truck	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007
Onsite Total (metric tons/month)	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**	**0.0000012**
Maximum Annual Total (tons/year)	**0.0000142**											

Onsite Construction Vehicle CH_4 Emissions from Demolition of Units 1-4

	CH_4 Emissions (metric tons/day)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003
Onsite Stake Truck	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Dump Truck	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003
Onsite Total (metric tons/day)	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**	**0.00000007**
	CH_4 Emissions (metric tons/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007
Onsite Stake Truck	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002
Onsite Dump Truck	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007
Onsite Total (metric tons/month)	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**	**0.000002**
Maximum Annual Total (tons/year)	**0.000020**											

Notes:

[a] The days per month are per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls', as presented on the 'Onsite Fugitive Dust' tab.

Table 5.1A.3R Onsite Demolition Fugitive Dust Emissions

Demolition Activity Levels for Demolition of Units 1-4

Source	Monthly Activity Levels											
	1	2	3	4	5	6	7	8	9	10	11	12
Debris Generated from Mechanical Dismemberment (tons) [a]	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

[a] Debris generated from Table 5.14-1, Wastes Generated during the Demolition Phase. Assumed 1/3 of wastes for Demolition of Units 1-4. Only materials generated from demolition that may generate fugitive dust were included. Assumed demolition activities start in Month 1. The monthly quantities were determined as follows:

Scrap Materials	16,800	lbs/week	which equals	33.60	tons/month
Scrap Metals	10,500	tons	which equals	875.00	tons/month
Concrete	350	tons	which equals	29.17	tons/month
Asphalt	53	tons	which equals	4.38	tons/month
Asbestos Waste	700	tons	which equals	58.33	tons/month

The above calculations are based on the following assumptions:

Demolition will begin in Month 1 and last	12	months
The construction schedule allows for	4	weeks/month

Onsite Construction Vehicle Fugitive PM_{10} Emissions from Demolition of Units 1-4

Vehicle Type	Fugitive PM_{10} Emissions (lbs/day) [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Onsite Pick-up Truck	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Stake Truck	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Dump Truck	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
Onsite Total (lbs/day)	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**
Vehicle Type	**Fugitive PM_{10} Emissions (lbs/month)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Stake Truck	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Dump Truck	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64
Onsite Total (lbs/month)	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**
Onsite Total (tons/year)	**1.17**											

Notes:
[a] Emissions based on highest (controlled) unpaved road emission factor for PM_{10}.

Onsite Construction Vehicle Fugitive $PM_{2.5}$ Emissions from Demolition of Units 1-4

Vehicle Type	Fugitive $PM_{2.5}$ Emissions (lbs/day) [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Onsite Pick-up Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Stake Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Dump Truck	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Onsite Total (lbs/day)	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**
Vehicle Type	**Fugitive $PM_{2.5}$ Emissions (lbs/month)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Onsite Pick-up Truck	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Stake Truck	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Dump Truck	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66
Onsite Total (lbs/month)	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**
Onsite Total (tons/year)	**0.12**											

Notes:
[a] Emissions based on the highest (controlled) unpaved road emission factor for $PM_{2.5}$.

Table 5.1A.3R Onsite Demolition Fugitive Dust Emissions

Onsite Demolition Fugitive PM_{10} Emissions from Demolition of Units 1-4

Demolition Activity	Fugitive PM_{10} Emissions (lbs/day) [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Dismemberment	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Debris Loading [b]	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Onsite Total (lbs/day)	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**	**0.60**
Demolition Activity	**Fugitive PM_{10} Emissions (lbs/month) [a]**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Dismemberment	1	1	1	1	1	1	1	1	1	1	1	1
Debris Loading [b]	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Onsite Total (lbs/month)	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**	**13.70**
Onsite Total (tons/year)	**0.08**											

Notes:
[a] Work days per month are as follows, per 'Manpower_Schedule_Redondo_Beach 10.08.12.xls': 23
[b] Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Onsite Demolition Fugitive $PM_{2.5}$ Emissions from Demolition of Units 1-4

Demolition Activity	Fugitive $PM_{2.5}$ Emissions (lbs/day) [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Dismemberment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debris Loading [b]	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Onsite Total (lbs/day)	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**
Demolition Activity	**Fugitive $PM_{2.5}$ Emissions (lbs/month) [a]**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Dismemberment	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Debris Loading [b]	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97
Onsite Total (lbs/month)	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**	**2.07**
Onsite Total (tons/year)	**0.01**											

Notes:
[a] Work days per month are as follows, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 23
[b] Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Onsite Construction Vehicle Activity for Demolition of Units 1-4

Vehicle Type	Miles/Day [a]	Working Days per Month [b]
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
[a] Estimated based on the dimensions of the project site.
[b] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'.

Table 5.1A.3R Onsite Demolition Fugitive Dust Emissions

Fugitive Dust Emission Factors for Unpaved Roads

Vehicles on Unpaved Surfaces at Industrial Sites

Parameter	PM_{10}	$PM_{2.5}$
Mean Vehicle Weight [a]	16.5	16.5
Silt Content [b]	8.5	8.5
k [c]	1.5	0.15
a [c]	0.9	0.9
b [c]	0.45	0.45
P [d]	31	31
Emission Factor (Uncontrolled, lbs/mile) [e]	2.17	0.22
Reduction from Watering 3x per Day [f]	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:

[a] Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.

[b] Silt content taken from Table 13.2.2-1 of Section 13.2.2 of *AP-42* (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.

[c] k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of *AP-42* (EPA, 2006) for industrial roads.

[d] P taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin.

[e] Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of *AP-42* (EPA, 2006):

Emission Factor (lbs/mile) = {k (lbs/mile) x [Silt Content (%) / 12]^{a} x [Mean Vehicle Weight (tons) / 3]^{b}} x [(365 - P) / 365]

[f] Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Dismemberment

Dismemberment and Collapse of Structures

Parameter	PM_{10}	$PM_{2.5}$
k [a]	0.35	0.053
U (mph) [b]	4.9	4.9
M (%) [c]	2.0	2.0
Emission Factor (lbs/ton) [d]	0.00110	0.00017
Reduction from Watering Every 4 Hours [e]	36%	36%
Emission Factor (Controlled, lbs/ton)	0.0007	0.0001

Notes:

[a] k, the particle size multiplier, taken from Section 13.2.4.3 of *AP-42* (EPA, 2006) per Section 4.4 of Appendix A of the *CalEEMod User's Guide (* ENVIRON, 2013).

[b] U, the mean wind speed, taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin. Converted from meters/second (m/s) to miles per hour (mph).

[c] M, the material moisture content, taken from Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[d] Emission factor calculated using the following equation from Section 13.2.4.3 of *AP-42* (EPA, 2006) per Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013):

Emission Factor (lbs/ton) = k x 0.0032 x $[U / 5]^{1.3}$ / $[M / 2]^{1.4}$

[e] Control efficiency taken from Table XI-A of the *CEQA Handbook* for Active Demolition and Debris Removal (SCAQMD, 2007).

Fugitive Dust Emission Factors for Debris Loading

Loading of Debris/Building Waste

Parameter	PM_{10}	$PM_{2.5}$
k [a]	0.35	0.053
EF_{L-TSP} [b]	0.058	0.058
Emission Factor (lbs/ton) [c]	0.020	0.003
Reduction from Watering Every 4 Hours [d]	36%	36%
Emission Factor (Controlled, lbs/ton)	0.013	0.002

Notes:

[a] k taken from Section 13.2.4.3 of *AP-42* (EPA, 2006) per Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] EF_{L-TSP} taken from Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[c] Emission factor calculated using the following equation from Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013):

Emission Factor (lbs/ton) = k x EF_{L-TSP} (lbs/ton)

[d] Control efficiency taken from Table XI-A of the *CEQA Handbook* for Active Demolition and Debris Removal (SCAQMD, 2007).

Table 5.1A.4R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle Usage During Demolition of Units 1-4

Vehicle Type	Number per Day											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks [a]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Material Hauling Trucks [b]	1.5	1.5	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.5	1.5	1.5
Waste Hauling Trucks [c]	9.0	13.0	16.0	16.0	25.0	22.0	21.0	19.0	18.0	18.0	12.0	10.0
Construction Worker Commute [d]	53.0	57.0	78.0	88.0	92.0	98.0	96.0	94.0	93.0	74.0	71.0	63.0

Notes:

[a] Offsite Delivery Trucks include trucks transporting "Consumables & Supplies", as provided in 'Redondo Beach Truck Deliveries 10.11.12.xls'

[b] Material Hauling Trucks include trucks transporting "Contractor Mobilization", "Contractor Demobilization", and "Construction Equipment", as provided in 'Redondo Beach Truck Deliveries

[c] Waste Hauling Trucks include trucks transporting "Mechanical Equipment", "Electrical Equip. & Mtrls", "Concrete/Rebar/Rubble", and "Steel/Architectural", as provided in 'Redondo Beach Truck Deliveries 10.11.12.xls'.

[d] Assumed 1 commute per 1 worker; number of workers taken from 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'

Offsite Vehicle CO Emissions from Demolition of Units 1-4

Vehicle Type	CO Emissions (lbs/day)											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.03	0.07	0.07
Material Hauling Trucks	0.11	0.11	0.07	0.07	0.07	0.07	0.14	0.14	0.14	0.11	0.11	0.11
Waste Hauling Trucks	1.02	1.47	1.81	1.81	2.83	2.49	2.38	2.15	2.04	2.04	1.36	1.13
Construction Worker Commute	5.20	5.59	7.65	8.63	9.02	9.61	9.41	9.22	9.12	7.26	6.96	6.18
Offsite Total (lbs/day)	**6.39**	**7.24**	**9.60**	**10.58**	**11.99**	**12.24**	**12.00**	**11.58**	**11.37**	**9.44**	**8.49**	**7.48**
Vehicle Type	**CO Emissions (lbs/month)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	0.76	1.52	1.52
Material Hauling Trucks	2.44	2.44	1.63	1.63	1.63	1.63	3.26	3.26	3.26	2.44	2.44	2.44
Waste Hauling Trucks	23.45	33.87	41.69	41.69	65.14	57.32	54.71	49.50	46.90	46.90	31.27	26.05
Construction Worker Commute	119.55	128.57	175.94	198.50	207.52	221.05	216.54	212.03	209.77	166.92	160.15	142.10
Offsite Total (lbs/month)	**146.96**	**166.41**	**220.78**	**243.34**	**275.81**	**281.52**	**276.04**	**266.31**	**261.45**	**217.02**	**195.38**	**172.13**
Maximum Annual Total (tons/year)	**1.36**											

Offsite Vehicle VOC Emissions from Demolition of Units 1-4

Vehicle Type	VOC Emissions (lbs/day)											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Material Hauling Trucks	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.02	0.02	0.02
Waste Hauling Trucks	0.22	0.32	0.40	0.40	0.62	0.55	0.52	0.47	0.45	0.45	0.30	0.25
Construction Worker Commute	0.12	0.12	0.17	0.19	0.20	0.21	0.21	0.20	0.20	0.16	0.15	0.14
Offsite Total (lbs/day)	**0.38**	**0.49**	**0.60**	**0.62**	**0.85**	**0.79**	**0.78**	**0.72**	**0.70**	**0.64**	**0.49**	**0.42**
Vehicle Type	**VOC Emissions (lbs/month)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.16	0.33	0.33
Material Hauling Trucks	0.54	0.54	0.36	0.36	0.36	0.36	0.72	0.72	0.72	0.54	0.54	0.54
Waste Hauling Trucks	5.16	7.45	9.17	9.17	14.33	12.61	12.04	10.89	10.32	10.32	6.88	5.73
Construction Worker Commute	2.65	2.85	3.89	4.39	4.59	4.89	4.79	4.69	4.64	3.69	3.55	3.15
Offsite Total (lbs/month)	**8.67**	**11.16**	**13.75**	**14.25**	**19.61**	**18.19**	**17.88**	**16.63**	**16.01**	**14.72**	**11.29**	**9.74**
Maximum Annual Total (tons/year)	**0.09**											

Table 5.1A.4R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle SOx Emissions from Demolition of Units 1-4

Vehicle Type	SOx Emissions (lbs/day)											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Material Hauling Trucks	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002
Waste Hauling Trucks	0.017	0.025	0.031	0.031	0.048	0.042	0.040	0.036	0.035	0.035	0.023	0.019
Construction Worker Commute	0.014	0.015	0.021	0.023	0.024	0.026	0.025	0.025	0.025	0.020	0.019	0.017
Offsite Total (lbs/day)	**0.034**	**0.043**	**0.053**	**0.056**	**0.074**	**0.070**	**0.069**	**0.065**	**0.062**	**0.056**	**0.045**	**0.039**
	SOx Emissions (lbs/month)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.012	0.023	0.023
Material Hauling Trucks	0.041	0.041	0.028	0.028	0.028	0.028	0.055	0.055	0.055	0.041	0.041	0.041
Waste Hauling Trucks	0.397	0.573	0.706	0.706	1.103	0.970	0.926	0.838	0.794	0.794	0.529	0.441
Construction Worker Commute	0.322	0.346	0.474	0.534	0.559	0.595	0.583	0.571	0.565	0.449	0.431	0.383
Offsite Total (lbs/month)	**0.783**	**0.984**	**1.230**	**1.291**	**1.712**	**1.616**	**1.587**	**1.487**	**1.437**	**1.296**	**1.025**	**0.888**
Maximum Annual Total (tons/year)	**0.008**											

Offsite Vehicle NOx Emissions from Demolition of Units 1-4

Vehicle Type	NOx Emissions (lbs/day)											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.18	0.37	0.37
Material Hauling Trucks	0.63	0.63	0.42	0.42	0.42	0.42	0.84	0.84	0.84	0.63	0.63	0.63
Waste Hauling Trucks	6.05	8.74	10.75	10.75	16.80	14.78	14.11	12.77	12.10	12.10	8.06	6.72
Construction Worker Commute	0.51	0.55	0.75	0.85	0.89	0.95	0.93	0.91	0.90	0.72	0.69	0.61
Offsite Total (lbs/day)	**7.56**	**10.28**	**12.29**	**12.39**	**18.48**	**16.52**	**16.25**	**14.88**	**14.20**	**13.62**	**9.75**	**8.33**
	NOx Emissions (lbs/month)											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	8.42	8.42	8.42	8.42	8.42	8.42	8.42	8.42	8.42	4.21	8.42	8.42
Material Hauling Trucks	14.49	14.49	9.66	9.66	9.66	9.66	19.32	19.32	19.32	14.49	14.49	14.49
Waste Hauling Trucks	139.10	200.93	247.30	247.30	386.40	340.03	324.58	293.66	278.21	278.21	185.47	154.56
Construction Worker Commute	11.79	12.68	17.35	19.57	20.46	21.80	21.35	20.91	20.69	16.46	15.79	14.01
Offsite Total (lbs/month)	**173.81**	**236.52**	**282.73**	**284.95**	**424.95**	**379.91**	**373.67**	**342.32**	**326.64**	**313.37**	**224.18**	**191.49**
Maximum Annual Total (tons/year)	**1.78**											

Offsite Vehicle PM_{10} Emissions from Demolition of Units 1-4

Vehicle Type	PM_{10} Emissions (lbs/day) [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.01	0.03	0.03
Material Hauling Trucks	0.07	0.07	0.04	0.04	0.04	0.04	0.09	0.09	0.09	0.07	0.07	0.07
Waste Hauling Trucks	0.63	0.91	1.12	1.12	1.75	1.54	1.47	1.33	1.26	1.26	0.84	0.70
Construction Worker Commute	1.19	1.28	1.75	1.98	2.07	2.20	2.16	2.11	2.09	1.66	1.60	1.42
Offsite Total (lbs/day)	**1.92**	**2.29**	**2.95**	**3.17**	**3.89**	**3.82**	**3.74**	**3.56**	**3.47**	**3.00**	**2.53**	**2.21**
	PM_{10} Emissions (lbs/month) [a]											
Vehicle Type	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.33	0.66	0.66
Material Hauling Trucks	1.51	1.51	1.01	1.01	1.01	1.01	2.01	2.01	2.01	1.51	1.51	1.51
Waste Hauling Trucks	14.48	20.91	25.74	25.74	40.22	35.39	33.78	30.57	28.96	28.96	19.30	16.09
Construction Worker Commute	27.42	29.49	40.36	45.53	47.60	50.71	49.67	48.64	48.12	38.29	36.74	32.60
Offsite Total (lbs/month)	**44.07**	**52.57**	**67.76**	**72.94**	**89.49**	**87.77**	**86.13**	**81.87**	**79.75**	**69.09**	**58.21**	**50.85**
Maximum Annual Total (tons/year)	**0.42**											

Notes:
[a] PM_{10} Emissions include emissions from exhaust and paved roads.

Table 5.1A.4R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle $PM_{2.5}$ Emissions from Demolition of Units 1-4

Vehicle Type	$PM_{2.5}$ Emissions (lbs/day) [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Material Hauling Trucks	0.03	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Waste Hauling Trucks	0.24	0.35	0.43	0.43	0.68	0.60	0.57	0.51	0.49	0.49	0.33	0.27
Construction Worker Commute	0.32	0.35	0.48	0.54	0.56	0.60	0.59	0.58	0.57	0.45	0.44	0.39
Offsite Total (lbs/day)	**0.61**	**0.74**	**0.94**	**1.00**	**1.27**	**1.22**	**1.20**	**1.14**	**1.10**	**0.97**	**0.80**	**0.69**
Vehicle Type	**$PM_{2.5}$ Emissions (lbs/month) [a]**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.12	0.25	0.25
Material Hauling Trucks	0.58	0.58	0.39	0.39	0.39	0.39	0.78	0.78	0.78	0.58	0.58	0.58
Waste Hauling Trucks	5.61	8.10	9.97	9.97	15.58	13.71	13.09	11.84	11.22	11.22	7.48	6.23
Construction Worker Commute	7.47	8.04	11.00	12.41	12.97	13.82	13.54	13.25	13.11	10.43	10.01	8.88
Offsite Total (lbs/month)	**13.92**	**16.97**	**21.61**	**23.02**	**29.19**	**28.17**	**27.65**	**26.12**	**25.36**	**22.36**	**18.32**	**15.95**
Maximum Annual Total (tons/year)	**0.13**											

Notes:
[a] $PM_{2.5}$ Emissions include emissions from exhaust and paved roads.

Offsite Vehicle CO_2 Emissions from Demolition of Units 1-4

Vehicle Type	CO_2 Emissions (metric tons/day)											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.05	0.05
Material Hauling Trucks	0.08	0.08	0.06	0.06	0.06	0.06	0.11	0.11	0.11	0.08	0.08	0.08
Waste Hauling Trucks	0.81	1.17	1.45	1.45	2.26	1.99	1.90	1.72	1.63	1.63	1.08	0.90
Construction Worker Commute	0.67	0.72	0.99	1.11	1.16	1.24	1.21	1.19	1.18	0.94	0.90	0.80
Offsite Total (metric tons/day)	**1.62**	**2.03**	**2.54**	**2.67**	**3.53**	**3.33**	**3.27**	**3.07**	**2.97**	**2.67**	**2.12**	**1.84**
Vehicle Type	**CO_2 Emissions (metric tons/month)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	0.58	1.16	1.16
Material Hauling Trucks	1.95	1.95	1.30	1.30	1.30	1.30	2.60	2.60	2.60	1.95	1.95	1.95
Waste Hauling Trucks	18.70	27.01	33.25	33.25	51.95	45.71	43.63	39.48	37.40	37.40	24.93	20.78
Construction Worker Commute	15.42	16.58	22.69	25.59	26.76	28.50	27.92	27.34	27.05	21.52	20.65	18.32
Offsite Total (metric tons/month)	**37.23**	**46.70**	**58.40**	**61.30**	**81.17**	**76.68**	**75.32**	**70.58**	**68.21**	**61.45**	**48.70**	**42.21**
Maximum Annual Total (tons/year)	**727.96**											

Offsite Vehicle N_2O Emissions from Demolition of Units 1-4

Vehicle Type	N_2O Emissions (metric tons/day)											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001
Material Hauling Trucks	0.0000003	0.0000003	0.0000002	0.0000002	0.0000002	0.0000002	0.0000004	0.0000004	0.0000004	0.0000003	0.0000003	0.0000003
Waste Hauling Trucks	0.0000028	0.0000040	0.0000049	0.0000049	0.0000077	0.0000068	0.0000065	0.0000058	0.0000055	0.0000055	0.0000037	0.0000031
Construction Worker Commute	0.0000056	0.0000060	0.0000083	0.0000093	0.0000097	0.0000104	0.0000102	0.0000099	0.0000098	0.0000078	0.0000075	0.0000067
Offsite Total (metric tons/day)	**0.0000088**	**0.0000104**	**0.0000135**	**0.0000146**	**0.0000177**	**0.0000175**	**0.0000171**	**0.0000163**	**0.0000159**	**0.0000137**	**0.0000116**	**0.0000102**
Vehicle Type	**N_2O Emissions (metric tons/month)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000002	0.000003	0.000003
Material Hauling Trucks	0.000007	0.000007	0.000004	0.000004	0.000004	0.000004	0.000009	0.000009	0.000009	0.000007	0.000007	0.000007
Waste Hauling Trucks	0.000064	0.000092	0.000113	0.000113	0.000177	0.000155	0.000148	0.000134	0.000127	0.000127	0.000085	0.000071
Construction Worker Commute	0.000129	0.000139	0.000190	0.000214	0.000224	0.000239	0.000234	0.000229	0.000226	0.000180	0.000173	0.000153
Offsite Total (metric tons/month)	**0.000202**	**0.000240**	**0.000310**	**0.000335**	**0.000408**	**0.000401**	**0.000394**	**0.000375**	**0.000365**	**0.000315**	**0.000267**	**0.000234**
Maximum Annual Total (tons/year)	**0.003848**											

Table 5.1A.4R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle CH_4 Emissions from Demolition of Units 1-4

Vehicle Type	CH_4 Emissions (metric tons/day)											
	1	2	3	4	5	6	7	8	9	10	11	12
Offsite Delivery Trucks	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001
Material Hauling Trucks	0.0000003	0.0000003	0.0000002	0.0000002	0.0000002	0.0000002	0.0000004	0.0000004	0.0000004	0.0000003	0.0000003	0.0000003
Waste Hauling Trucks	0.0000029	0.0000042	0.0000052	0.0000052	0.0000082	0.0000072	0.0000069	0.0000062	0.0000059	0.0000059	0.0000039	0.0000033
Construction Worker Commute	0.0000270	0.0000290	0.0000397	0.0000448	0.0000468	0.0000498	0.0000488	0.0000478	0.0000473	0.0000376	0.0000361	0.0000320
Offsite Total (metric tons/day)	**0.0000303**	**0.0000337**	**0.0000452**	**0.0000503**	**0.0000553**	**0.0000574**	**0.0000562**	**0.0000546**	**0.0000537**	**0.0000439**	**0.0000405**	**0.0000358**
Vehicle Type	**CH_4 Emissions (metric tons/month)**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Offsite Delivery Trucks	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000002	0.000003	0.000003
Material Hauling Trucks	0.000007	0.000007	0.000005	0.000005	0.000005	0.000005	0.000009	0.000009	0.000009	0.000007	0.000007	0.000007
Waste Hauling Trucks	0.000068	0.000098	0.000120	0.000120	0.000188	0.000165	0.000158	0.000143	0.000135	0.000135	0.000090	0.000075
Construction Worker Commute	0.000620	0.000667	0.000912	0.001029	0.001076	0.001146	0.001123	0.001100	0.001088	0.000866	0.000831	0.000737
Offsite Total (metric tons/month)	**0.000698**	**0.000775**	**0.001041**	**0.001157**	**0.001272**	**0.001320**	**0.001293**	**0.001255**	**0.001236**	**0.001009**	**0.000931**	**0.000822**
Maximum Annual Total (tons/year)	**0.012809**											

Offsite Construction Vehicle Activity for Demolition of Units 1-4

Vehicle Type	Roundtrip Miles/Day	Working Days per Month [d]
Offsite Delivery Trucks [a]	13.8	23
Material Hauling Trucks [b]	40.0	23
Waste Hauling Trucks [c]	64.0	23
Construction Worker Commute [a]	29.4	23

Notes:

[a] Roundtrip miles/day taken for the South Coast Air Basin from Table 4.2 (Urban C-NW and H-W values) of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013)

[b] Roundtrip miles/day taken for from Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013)

[c] Roundtrip miles/day were assumed to travel directly to the Savage Canyon Landfill for offsite waste disposal.

[d] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'.

Table 5.1A.5R Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Demolition of Units 1-4

Emission Source	Pollutant(s)	Equation	Variables
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM_{10}, and $PM_{2.5}$	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)
			EF = Emission factor (g/bhp-hr)
			N = Number of pieces of equipment
			Hp = Average horsepower
			L = Average load factor
			H = Hours per month
			453.6 = Conversion from g to lbs
		$E_d = E_m / D$	E_d = Emissions (lbs/day)
			E_m = Emissions (lbs/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2{,}000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons
	CO_2	$E_m = N * FC * EF * H * 0.001$	E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
			FC = Fuel consumption (gallons/hour)
			EF = Emission factor (kg/gallon)
			H = Hours per month
			0.001 = Conversion from kg to metric tons
		$E_d = E_m / D$	E_d = Emissions (metric tons/day)
			E_m = Emissions (metric tons/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
	CH_4 and N_2O	$E_m = N * FC * EF * H / 1{,}000 * 0.001$	E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
			FC = Fuel consumption (gallons/hour)
			EF = Emission factor (g/gallon)
			H = Hours per month
			1,000 = Conversion from g to kg
			0.001 = Conversion from kg to metric tons
		$E_d = E_m / D$	E_d = Emissions (metric tons/day)
			E_m = Emissions (metric tons/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM_{10} and $PM_{2.5}$	CO, VOC, NOx, SOx, PM_{10}, and $PM_{2.5}$	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			EF = EMFAC2011 emission factor (g/mile). Paved and unpaved road fugitive PM_{10} and $PM_{2.5}$ emission factors calculated per Sections 13.2.1 and 13.2.2 of *AP-42* (EPA, 2011 and 2006),
			453.6 = Conversion from g to lbs
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2{,}000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons

Table 5.1A.5R Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Demolition of Units 1-4

Emission Source	Pollutant(s)	Equation	Variables
Onsite and Offsite Vehicle Exhaust	CO_2	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			FE = Fuel economy (mpg)
			EF = Emission factor (kg/gallon)
			0.001 = Conversion from kg to metric tons
		$E_m = E_d * D$	E_m = Emissions (metric tons/month)
			E_d = Emissions (metric tons/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
	CH_4 and N_2O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			EF = Emission factor (g/mile)
			1,000 = Conversion from g to kg
			0.001 = Conversion from kg to metric tons
		$E_m = E_d * D$	E_m = Emissions (metric tons/month)
			E_d = Emissions (metric tons/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
Onsite Fugitive PM_{10} and $PM_{2.5}$ from Dismemberment and Debris Loading	PM_{10} and $PM_{2.5}$	$E_d = T * EF / D$	E_d = Emissions (lbs/day)
			T = Tons of material dismembered or loaded
			EF = Fugitive PM_{10} and $PM_{2.5}$ emission factors (lbs/ton), calculated per Section 13.2.4.3 of *AP-42* (EPA, 2006) for dismemberment and Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013) for debris loading.
			D = Number of construction days per month
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2,000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons

Table 5.1A.6R Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Demolition of Units 1-4

Onsite Equipment	Number per Month [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Water Truck	2	2	2	2	2	2	2	2	2	2	2	2
Excavator	2	2	2	2	2	2	2	2	2	2	2	2
Cranes [b]	3	3	3	3	3	3	3	3	3	3	3	3
Rubber Tired Loader [c]	3	3	3	3	3	3	3	3	3	3	3	3
Generator Sets [d]	0	0	2	4	4	4	0	0	2	4	4	4
Air Compressor	2	2	2	2	2	2	2	2	2	2	2	2
Forklift	2	2	2	2	2	2	2	2	2	2	2	2

Notes:
[a] Vehicle counts taken from 'RBEP EQUIPMENT USAGE 10.11.12.xls'.
[b] Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane and the 35 Ton Hydraulic Crane.
[c] Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.
[d] Numbers presented for Generator Sets includes the equipment counts for the Light Towers.

Number of Onsite Motor Vehicles for Demolition of Units 1-4

Vehicle Type	Number per Month [a]											
	1	2	3	4	5	6	7	8	9	10	11	12
Onsite Pick-up Truck	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Stake Truck	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Dump Truck	6	6	6	6	6	6	6	6	6	6	6	6

Notes:
[a] Vehicle counts taken from 'RBEP EQUIPMENT USAGE 10.11.12.xls'.

Table 5.1A.7R Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Demolition of Units 1-4

Equipment [a]	Percent Usage [b]	Hours per Month [c]	Horsepower [d]	Load Factor [d]	Emission Factors (g/bhp-hr) [e]						Fuel Consumption 2016 (gallons/hour) [f]
					CO 2016	VOC 2016	NO_X 2016	SO_X 2016	PM_{10} 2016	$PM_{2.5}$ 2016	
Water Truck [g]	50%	115	400	0.38	1.885	0.351	4.048	0.005	0.153	0.141	12.33
Excavator	85%	196	163	0.38	3.158	0.358	4.081	0.005	0.201	0.185	5.11
Cranes	65%	150	226	0.29	2.582	0.623	7.381	0.005	0.335	0.308	5.08
Rubber Tired Loader	55%	127	200	0.36	1.452	0.393	5.115	0.005	0.175	0.161	6.75
Generator Sets	30%	69	84	0.74	3.469	0.583	4.410	0.006	0.309	0.309	3.56
Air Compressor	80%	184	78	0.48	3.804	0.744	4.790	0.006	0.397	0.397	2.15
Forklift	75%	173	89	0.20	4.023	0.723	6.222	0.005	0.520	0.479	1.43

Notes:

[a] Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] Percent Usage assumed typical of power plant construction.

[c] Hours per month calculated based on the following schedule, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'

Work hours per day: 10
Work days per month: 23

[d] Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

[e] Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2016 were used for the construction equipment exhaust emission calculations.

[f] Fuel consumption based on consumption in the OFFROAD2007 model for the SCAB in the year 2016; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day

[g] Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks

Table 5.1A.8R Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Demolition of Units 1-4

Vehicle Type	Vehicle Class [a]	Exhaust Emission Factors (g/mile) [b]						Paved Road Emission Factors (g/mile) [c]		Fuel Economy
		CO 2016	VOC 2016	SO_X 2016	NO_X 2016	PM_{10} 2016	$PM_{2.5}$ 2016	PM_{10}	$PM_{2.5}$	2016 (mpg) [d]
Onsite Pick-up Truck	Light-duty Truck	4.479	0.298	0.005	0.422	0.062	0.034	N/A	N/A	18.162
Onsite Stake Truck	Heavy-duty Diesel	6.211	3.186	0.017	19.740	0.252	0.178	N/A	N/A	5.565
Onsite Dump Truck	Heavy-duty Diesel	6.211	3.186	0.017	19.740	0.252	0.178	N/A	N/A	5.565
Offsite Delivery Trucks	Heavy-duty Diesel	1.089	0.233	0.017	6.018	0.170	0.103	0.300	0.075	5.565
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.803	0.177	0.014	4.763	0.195	0.117	0.300	0.075	7.233
Waste Hauling Trucks	Heavy/Medium-duty Diesel	0.803	0.177	0.014	4.763	0.195	0.117	0.300	0.075	7.233
Construction Worker Commu	Light-duty Auto/Truck	1.513	0.033	0.004	0.149	0.047	0.019	0.300	0.075	20.413

Notes:

[a] The vehicle classes are represented as follows:

Light-duty Truck: Assumed to be an average of LDT1, All and LDT2, All values.

Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2016, using EMFAC2007 Vehicle Categories. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

[c] Paved road emission factors calculated using CalEEMod methodology, as described below.

[d] Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2016, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM_{10}	$PM_{2.5}$
Average Weight [a]	2.4	2.4
k [b]	1.0	0.25
sL [c]	0.1	0.1
Emission Factor (g/mile) [d]	0.300	0.075

Notes:

[a] Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).

[c] sL taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin.

[d] Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):

Emission Factor (g/mile) = k (g/mile) x $[sL\ (g/m^2)]^{0.91}$ x $[\text{Average Weight (tons)}]^{1.02}$

Table 5.1A.9R Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Demolition of Units 1-4

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO_2 Emission Factors			
Gasoline	8.78	kg CO_2/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO_2/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N_2O Emission Factors			
Gasoline Passenger Car Model Year 2010 [a]	0.0036	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 [a]	0.0066	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 [a]	0.0048	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N_2O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH_4 Emission Factors			
Gasoline Passenger Car Model Year 2010 [a]	0.0173	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 [a]	0.0163	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 [a]	0.0051	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH_4/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

[a] Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.10R Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle CO Emissions from Power Block Construction

	CO Emissions (lbs/day)																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Onsite Dump Truck	0.08	0.08	0.08	0.08	0.08	0.05	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Onsite Total (lbs/day)	**0.17**	**0.17**	**0.17**	**0.17**	**0.17**	**0.14**	**0.14**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**
	CO Emissions (lbs/month)[a]																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.41	0.41	0.41	0.41	0.41	0.41	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Onsite Dump Truck	1.85	1.85	1.85	1.85	1.85	1.24	1.24	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Onsite Total (lbs/month)	**3.90**	**3.90**	**3.90**	**3.90**	**3.90**	**3.28**	**3.28**	**2.67**	**2.67**	**2.67**	**2.67**	**2.67**	**2.67**	**2.67**	**2.67**	**2.67**	**2.67**	**2.36**	**2.36**	**2.36**	**2.36**	**2.36**	**1.33**	**1.33**	**1.33**	**1.33**	**1.33**	**1.33**	**0.93**	**0.93**	**0.93**	**0.93**	**0.93**	**0.93**
Maximum Annual Total (tons/year)	**0.02**																																

Onsite Construction Vehicle VOC Emissions from Power Block Construction

	VOC Emisisons (lbs/day)																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Onsite Stake Truck	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
Onsite Dump Truck	0.041	0.041	0.041	0.041	0.041	0.027	0.027	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Onsite Total (lbs/day)	**0.071**	**0.071**	**0.071**	**0.071**	**0.071**	**0.057**	**0.057**	**0.043**	**0.043**	**0.043**	**0.043**	**0.043**	**0.043**	**0.043**	**0.043**	**0.043**	**0.043**	**0.036**	**0.036**	**0.036**	**0.036**	**0.036**	**0.022**	**0.022**	**0.022**	**0.022**	**0.022**	**0.022**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**	**0.021**
	VOC Emissions (lbs/month)[a]																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Onsite Dump Truck	0.94	0.94	0.94	0.94	0.94	0.63	0.63	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Onsite Total (lbs/month)	**1.63**	**1.63**	**1.63**	**1.63**	**1.63**	**1.31**	**1.31**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	**0.50**	**0.47**	**0.47**	**0.47**	**0.47**	**0.47**	**0.47**
Maximum Annual Total (tons/year)	**0.01**																																

Onsite Construction Vehicle SOx Emissions from Power Block Construction

	SOx Emissions (lbs/day)																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Onsite Stake Truck	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007
Onsite Dump Truck	0.00022	0.00022	0.00022	0.00022	0.00022	0.00015	0.00015	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004
Onsite Total (lbs/day)	**0.00040**	**0.00040**	**0.00040**	**0.00040**	**0.00040**	**0.00033**	**0.00033**	**0.00026**	**0.00026**	**0.00026**	**0.00026**	**0.00026**	**0.00026**	**0.00026**	**0.00026**	**0.00026**	**0.00026**	**0.00022**	**0.00022**	**0.00022**	**0.00022**	**0.00022**	**0.00013**	**0.00013**	**0.00013**	**0.00013**	**0.00013**	**0.00013**	**0.00011**	**0.00011**	**0.00011**	**0.00011**	**0.00011**	**0.00011**
	SOx Emissions (lbs/month)[a]																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Onsite Stake Truck	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00334	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167
Onsite Dump Truck	0.00501	0.00501	0.00501	0.00501	0.00501	0.00334	0.00334	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00167	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084	0.00084
Onsite Total (lbs/month)	**0.00927**	**0.00927**	**0.00927**	**0.00927**	**0.00927**	**0.00760**	**0.00760**	**0.00593**	**0.00593**	**0.00593**	**0.00593**	**0.00593**	**0.00593**	**0.00593**	**0.00593**	**0.00593**	**0.00593**	**0.00510**	**0.00510**	**0.00510**	**0.00510**	**0.00510**	**0.00297**	**0.00297**	**0.00297**	**0.00297**	**0.00297**	**0.00297**	**0.00251**	**0.00251**	**0.00251**	**0.00251**	**0.00251**	**0.00251**
Maximum Annual Total (tons/year)	**0.00005**																																

Onsite Construction Vehicle NOx Emissions from Power Block Construction

	NOx Emissions (lbs/day)																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Onsite Stake Truck	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.159	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.148	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069
Onsite Dump Truck	0.239	0.239	0.239	0.239	0.239	0.159	0.159	0.080	0.080	0.080	0.074	0.074	0.074	0.074	0.074	0.074	0.074	0.037	0.037	0.037	0.037	0.037	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Onsite Total (lbs/day)	**0.402**	**0.402**	**0.402**	**0.402**	**0.402**	**0.322**	**0.322**	**0.243**	**0.243**	**0.243**	**0.225**	**0.225**	**0.225**	**0.225**	**0.225**	**0.225**	**0.225**	**0.188**	**0.188**	**0.188**	**0.188**	**0.188**	**0.105**	**0.105**	**0.105**	**0.105**	**0.105**	**0.105**	**0.104**	**0.104**	**0.104**	**0.104**	**0.104**	**0.104**
	NOx Emissions (lbs/month)[a]																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
Onsite Dump Truck	5.50	5.50	5.50	5.50	5.50	3.67	3.67	1.83	1.83	1.83	1.70	1.70	1.70	1.70	1.70	1.70	1.70	0.85	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Onsite Total (lbs/month)	**9.25**	**9.25**	**9.25**	**9.25**	**9.25**	**7.41**	**7.41**	**5.58**	**5.58**	**5.58**	**5.17**	**5.17**	**5.17**	**5.17**	**5.17**	**5.17**	**5.17**	**4.32**	**4.32**	**4.32**	**4.32**	**4.32**	**2.43**	**2.43**	**2.43**	**2.43**	**2.43**	**2.43**	**2.39**	**2.39**	**2.39**	**2.39**	**2.39**	**2.39**
Maximum Annual Total (tons/year)	**0.04**																																

Onsite Construction Vehicle PM_{10} Emissions from Power Block Construction

	PM_{10} Emissions (lbs/day)																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Onsite Stake Truck	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
Onsite Dump Truck	0.0029	0.0029	0.0029	0.0029	0.0029	0.0019	0.0019	0.0010	0.0010	0.0010	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Onsite Total (lbs/day)	**0.0054**	**0.0054**	**0.0054**	**0.0054**	**0.0054**	**0.0044**	**0.0044**	**0.0034**	**0.0034**	**0.0034**	**0.0034**	**0.0034**	**0.0034**	**0.0034**	**0.0034**	**0.0034**	**0.0034**	**0.0029**	**0.0029**	**0.0029**	**0.0029**	**0.0029**	**0.0016**	**0.0016**	**0.0016**	**0.0016**	**0.0016**	**0.0016**	**0.0014**	**0.0014**	**0.0014**	**0.0014**	**0.0014**	**0.0014**
	PM_{10} Emissions (lbs/month)[a]																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.006	0.006	0.006	0.006	0.006	0.006	0.000	0.000	0.000	0.000	0.000	0.000
Onsite Stake Truck	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021
Onsite Dump Truck	0.067	0.067	0.067	0.067	0.067	0.045	0.045	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Onsite Total (lbs/month)	**0.124**	**0.124**	**0.124**	**0.124**	**0.124**	**0.102**	**0.102**	**0.079**	**0.079**	**0.079**	**0.077**	**0.077**	**0.077**	**0.077**	**0.077**	**0.077**	**0.077**	**0.066**	**0.066**	**0.066**	**0.066**	**0.066**	**0.038**	**0.038**	**0.038**	**0.038**	**0.038**	**0.038**	**0.032**	**0.032**	**0.032**	**0.032**	**0.032**	**0.032**
Maximum Annual Total (tons/year)	**0.001**																																

Onsite Construction Vehicle $PM_{2.5}$ Emissions from Power Block Construction

	$PM_{2.5}$ Emissions (lbs/day)																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Onsite Stake Truck	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Onsite Dump Truck	0.0020	0.0020	0.0020	0.0020	0.0020	0.0013	0.0013	0.0007	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Onsite Total (lbs/day)	**0.0036**	**0.0036**	**0.0036**	**0.0036**	**0.0036**	**0.0029**	**0.0029**	**0.0023**	**0.0023**	**0.0023**	**0.0022**	**0.0022**	**0.0022**	**0.0022**	**0.0022**	**0.0022**	**0.0022**	**0.0019**	**0.0019**	**0.0019**	**0.0019**	**0.0019**	**0.0011**	**0.0011**	**0.0011**	**0.0011**	**0.0011**	**0.0011**	**0.0009**	**0.0009**	**0.0009**	**0.0009**	**0.0009**	**0.0009**
	$PM_{2.5}$ Emissions (lbs/month)[a]																																
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0067	0.0067	0.0067	0.0067	0.0067	0.0067	0.0067	0.0067	0.0067	0.0067	0.0067	0.0067	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Onsite Stake Truck	0.0302	0.0302	0.0302	0.0302	0.0302	0.0302	0.0302	0.0302	0.0302	0.0302	0.0290	0.0290	0.0290	0.0290	0.0290	0.0290	0.0290	0.0290	0.0290	0.0290	0.0290	0.0290	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139	0.0139
Onsite Dump Truck	0.0452	0.0452	0.0452	0.0452	0.0452	0.0302	0.0302	0.0151	0.0151	0.0151	0.0145	0.0145	0.0145	0.0145	0.0145	0.0145	0.0145	0.0072	0.0072	0.0072	0.0072	0.0072	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070
Onsite Total (lbs/month)	**0.0821**	**0.0821**	**0.0821**	**0.0821**	**0.0821**	**0.0671**	**0.0671**	**0.0520**	**0.0520**	**0.0520**	**0.0501**	**0.0501**	**0.0501**	**0.0501**	**0.0501**	**0.0501**	**0.0501**	**0.0429**	**0.0429**	**0.0429**	**0.0429**	**0.0429**	**0.0242**	**0.0242**	**0.0242**	**0.0242**	**0.0242**	**0.0242**	**0.0209**	**0.0209**	**0.0209**	**0.0209**	**0.0209**	**0.0209**
Maximum Annual Total (tons/year)	**0.0004**																																

Table 5.1A.10R Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle CO_2 Emissions from Power Block Construction

	CO_2 Emissions (metric tons/day)																																		
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Onsite Stake Truck	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Onsite Dump Truck	0.011	0.011	0.011	0.011	0.011	0.007	0.007	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Onsite Total (metric tons/day)	**0.020**	**0.020**	**0.020**	**0.020**	**0.020**	**0.017**	**0.017**	**0.013**	**0.013**	**0.013**	**0.013**	**0.013**	**0.013**	**0.013**	**0.013**	**0.013**	**0.013**	**0.011**	**0.011**	**0.011**	**0.011**	**0.011**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**	**0.006**

	CO_2 Emissions (metric tons/month)[A]																																		
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Onsite Dump Truck	0.25	0.25	0.25	0.25	0.25	0.17	0.17	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Onsite Total (metric tons/month)	**0.47**	**0.47**	**0.47**	**0.47**	**0.47**	**0.38**	**0.38**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.26**	**0.26**	**0.26**	**0.26**	**0.26**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**
Maximum Annual Total (metric tons/year)	**4.58**																																	

Onsite Construction Vehicle N_2O Emissions from Power Block Construction

	N_2O Emissions (metric tons/day)																																		
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000026	0.000000013	0.000000013	0.000000013	0.000000013	0.000000013	0.000000013	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Onsite Stake Truck	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000019	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010
Onsite Dump Truck	0.000000029	0.000000029	0.000000029	0.000000029	0.000000029	0.000000019	0.000000019	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000010	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005	0.000000005
Onsite Total (metric tons/day)	**0.000000074**	**0.000000074**	**0.000000074**	**0.000000074**	**0.000000074**	**0.000000055**	**0.000000065**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000055**	**0.000000050**	**0.000000050**	**0.000000050**	**0.000000050**	**0.000000050**	**0.000000028**	**0.000000028**	**0.000000028**	**0.000000028**	**0.000000028**	**0.000000028**	**0.000000014**	**0.000000014**	**0.000000014**	**0.000000014**	**0.000000014**	**0.000000014**

	N_2O Emissions (metric tons/month)[A]																																		
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000061	0.00000030	0.00000030	0.00000030	0.00000030	0.00000030	0.00000030	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Onsite Stake Truck	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000044	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022
Onsite Dump Truck	0.00000066	0.00000066	0.00000066	0.00000066	0.00000066	0.00000044	0.00000044	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000022	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011
Onsite Total (metric tons/month)	**0.00000171**	**0.00000171**	**0.00000171**	**0.00000171**	**0.00000171**	**0.00000149**	**0.00000149**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000127**	**0.00000116**	**0.00000116**	**0.00000116**	**0.00000116**	**0.00000116**	**0.00000063**	**0.00000063**	**0.00000063**	**0.00000063**	**0.00000063**	**0.00000063**	**0.00000033**	**0.00000033**	**0.00000033**	**0.00000033**	**0.00000033**	**0.00000033**
Maximum Annual Total (metric tons/year)	**0.0000179**																																	

Onsite Construction Vehicle CH_4 Emissions from Power Block Construction

	CH_4 Emissions (metric tons/day)																																		
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Onsite Stake Truck	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Dump Truck	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Total (metric tons/day)	**0.00000012**	**0.00000012**	**0.00000012**	**0.00000012**	**0.00000012**	**0.00000011**	**0.00000011**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000009**	**0.00000009**	**0.00000009**	**0.00000009**	**0.00000009**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000005**	**0.00000002**	**0.00000002**	**0.00000002**	**0.00000002**	**0.00000002**	**0.00000002**

	CH_4 Emissions (metric tons/month)[A]																																		
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Onsite Stake Truck	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002
Onsite Dump Truck	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000005	0.0000005	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001
Onsite Total (metric tons/month)	**0.0000027**	**0.0000027**	**0.0000027**	**0.0000027**	**0.0000027**	**0.0000024**	**0.0000024**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000022**	**0.0000021**	**0.0000021**	**0.0000021**	**0.0000021**	**0.0000021**	**0.0000011**	**0.0000011**	**0.0000011**	**0.0000011**	**0.0000011**	**0.0000011**	**0.0000004**	**0.0000004**	**0.0000004**	**0.0000004**	**0.0000004**	**0.0000004**
Maximum Annual Total (metric tons/year)	**0.0000293**																																	

Notes:
[A] The days per month are per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls', as presented on the 'Fugitive Dust' tab.

Table 5.1A.11R Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from Power Block Construction

	CO Emisisons (lbs/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	134.70	67.35	67.35	67.35	67.35	67.35	67.35	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	168.23	168.23	168.23	84.12	84.12	168.23	168.23	168.23	168.23	168.23	168.23	168.23	168.23	168.23	168.23	168.23	84.12	84.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	223.83	223.83	223.83	223.83	223.83	111.91	111.91	111.91	111.91	111.91	111.91	111.91	111.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cranes	51.51	51.51	51.51	51.51	103.02	103.02	206.03	206.03	257.54	257.54	309.05	309.05	309.05	309.05	309.05	309.05	206.03	206.03	206.03	206.03	206.03	206.03	206.03	206.03	206.03	206.03	206.03	206.03	103.02	103.02	103.02	103.02	103.02	103.02
Tractor/Loader/Backhoe	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	38.24	0.00	0.00	0.00	0.00	0.00	0.00
Rubber Tired Loader	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46	28.46
Crawler Tractor	126.39	126.39	126.39	126.39	126.39	63.19	63.19	63.19	63.19	63.19	63.19	63.19	63.19	63.19	63.19	63.19	63.19	63.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressor	114.57	114.57	114.57	114.57	114.57	114.57	114.57	114.57	114.57	57.29	57.29	114.57	114.57	114.57	114.57	114.57	114.57	114.57	114.57	114.57	114.57	114.57	57.29	57.29	57.29	57.29	57.29	57.29	57.29	57.29	57.29	57.29	57.29	57.29
Forklift	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	53.87	26.93	26.93	26.93	26.93	26.93	26.93	26.93	26.93	26.93	26.93	26.93	26.93
Roller	104.31	104.31	104.31	104.31	104.31	69.54	69.54	69.54	69.54	69.54	69.54	69.54	69.54	69.54	69.54	69.54	34.77	34.77	0.00	34.77	34.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other General Industrial Equipment	42.46	42.46	42.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.46	42.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	**1,086.57**	**1,086.57**	**1,086.57**	**959.99**	**1,011.50**	**885.74**	**988.75**	**988.75**	**1,040.26**	**982.98**	**1,034.48**	**1,091.77**	**1,091.77**	**979.86**	**979.86**	**979.86**	**757.95**	**757.95**	**575.87**	**610.64**	**610.64**	**575.87**	**424.30**	**424.30**	**466.76**	**466.76**	**386.06**	**386.06**	**215.69**	**215.69**	**215.69**	**215.69**	**215.69**	**215.69**
Onsite Total (lbs/day) [a]	**47.24**	**47.24**	**47.24**	**41.74**	**43.98**	**38.51**	**42.99**	**42.99**	**45.23**	**42.74**	**44.98**	**47.47**	**47.47**	**42.60**	**42.60**	**42.60**	**32.95**	**32.95**	**25.04**	**26.55**	**26.55**	**25.04**	**18.45**	**18.45**	**20.29**	**20.29**	**16.79**	**16.79**	**9.38**	**9.38**	**9.38**	**9.38**	**9.38**	**9.38**
Maximum Annual Total (tons/year)	**6.12**																																	

Construction Equipment VOC Emissions from Power Block Construction

	VOC Emisisons (lbs/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	25.07	12.54	12.54	12.54	12.54	12.54	12.54	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	17.81	17.81	17.81	8.91	8.91	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	17.81	8.91	8.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	44.07	44.07	44.07	44.07	44.07	22.04	22.04	22.04	22.04	22.04	22.04	22.04	22.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cranes	12.11	12.11	12.11	12.11	24.22	24.22	48.44	48.44	60.55	60.55	72.66	72.66	72.66	72.66	72.66	72.66	48.44	48.44	48.44	48.44	48.44	48.44	48.44	48.44	48.44	48.44	48.44	48.44	24.22	24.22	24.22	24.22	24.22	24.22
Tractor/Loader/Backhoe	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	0.00	0.00	0.00	0.00	0.00	0.00
Rubber Tired Loader	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48
Crawler Tractor	31.17	31.17	31.17	31.17	31.17	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	15.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressor	20.38	20.38	20.38	20.38	20.38	20.38	20.38	20.38	20.38	10.19	10.19	20.38	20.38	20.38	20.38	20.38	20.38	20.38	20.38	20.38	20.38	20.38	10.19	10.19	10.19	10.19	10.19	10.19	10.19	10.19	10.19	10.19	10.19	10.19
Forklift	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	9.10	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55
Roller	16.29	16.29	16.29	16.29	16.29	10.86	10.86	10.86	10.86	10.86	10.86	10.86	10.86	10.86	10.86	10.86	5.43	5.43	0.00	5.43	5.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other General Industrial Equipment	7.01	7.01	7.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.01	7.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	**195.55**	**195.55**	**195.55**	**179.64**	**191.75**	**157.60**	**181.82**	**181.82**	**193.93**	**183.74**	**195.85**	**206.04**	**206.04**	**184.01**	**184.01**	**184.01**	**145.45**	**145.45**	**115.53**	**120.96**	**120.96**	**115.53**	**88.26**	**88.26**	**95.27**	**95.27**	**83.20**	**83.20**	**46.44**	**46.44**	**46.44**	**46.44**	**46.44**	**46.44**
Onsite Total (lbs/day) [a]	**8.50**	**8.50**	**8.50**	**7.81**	**8.34**	**6.85**	**7.91**	**7.91**	**8.43**	**7.99**	**8.52**	**8.96**	**8.96**	**8.00**	**8.00**	**8.00**	**6.32**	**6.32**	**5.02**	**5.26**	**5.26**	**5.02**	**3.84**	**3.84**	**4.14**	**4.14**	**3.62**	**3.62**	**2.02**	**2.02**	**2.02**	**2.02**	**2.02**	**2.02**
Maximum Annual Total (tons/year)	**1.13**																																	

Construction Equipment NOx Emissions from Power Block Construction

	NOx Emissions (lbs/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	282.73	282.73	282.73	282.73	282.73	282.73	282.73	282.73	282.73	282.73	238.15	238.15	238.15	238.15	238.15	238.15	238.15	238.15	238.15	238.15	238.15	238.15	102.83	102.83	102.83	102.83	102.83	102.83	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	197.53	197.53	197.53	98.77	98.77	197.53	197.53	197.53	197.53	197.53	156.10	156.10	156.10	156.10	156.10	156.10	78.05	78.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	446.04	446.04	446.04	446.04	446.04	223.02	223.02	223.02	223.02	223.02	192.23	192.23	192.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cranes	143.76	143.76	143.76	143.76	287.52	287.52	575.04	575.04	718.80	718.80	748.21	748.21	748.21	748.21	748.21	748.21	498.81	498.81	498.81	498.81	498.81	498.81	439.30	439.30	439.30	439.30	439.30	439.30	219.65	219.65	219.65	219.65	219.65	219.65
Tractor/Loader/Backhoe	48.63	48.63	48.63	48.63	48.63	48.63	48.63	48.63	48.63	48.63	42.01	42.01	42.01	42.01	42.01	42.01	42.01	42.01	42.01	42.01	42.01	42.01	37.34	37.34	37.34	37.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rubber Tired Loader	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	82.95	82.95	82.95	82.95	82.95	82.95	82.95	82.95	82.95	82.95	82.95	82.95	75.19	75.19	75.19	75.19	75.19	75.19	75.19	75.19	75.19	75.19	75.19	75.19
Crawler Tractor	417.93	417.93	417.93	417.93	417.93	208.97	208.97	208.97	208.97	208.97	191.91	191.91	191.91	191.91	191.91	191.91	191.91	191.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressor	134.01	134.01	134.01	134.01	134.01	134.01	134.01	134.01	134.01	67.01	61.51	123.02	123.02	123.02	123.02	123.02	123.02	123.02	123.02	123.02	123.02	123.02	56.28	56.28	56.28	56.28	56.28	56.28	56.28	56.28	56.28	56.28	56.28	56.28
Forklift	78.76	78.76	78.76	78.76	78.76	78.76	78.76	78.76	78.76	78.76	67.90	67.90	67.90	67.90	67.90	67.90	67.90	67.90	67.90	67.90	67.90	67.90	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80	30.80
Roller	152.02	152.02	152.02	152.02	152.02	101.35	101.35	101.35	101.35	101.35	87.10	87.10	87.10	87.10	87.10	87.10	43.55	43.55	0.00	43.55	43.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other General Industrial Equipment	60.76	60.76	60.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.75	47.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	**2,057.65**	**2,057.65**	**2,057.65**	**1,898.13**	**2,041.89**	**1,657.99**	**1,945.52**	**1,945.52**	**2,089.28**	**2,022.27**	**1,868.07**	**1,929.58**	**1,929.58**	**1,737.35**	**1,737.35**	**1,737.35**	**1,366.35**	**1,366.35**	**1,052.84**	**1,096.39**	**1,096.39**	**1,052.84**	**741.74**	**741.74**	**789.49**	**789.49**	**704.40**	**704.40**	**381.92**	**381.92**	**381.92**	**381.92**	**381.92**	**381.92**
Onsite Total (lbs/day) [a]	**89.46**	**89.46**	**89.46**	**82.53**	**88.78**	**72.09**	**84.59**	**84.59**	**90.84**	**87.92**	**81.22**	**83.89**	**83.89**	**75.54**	**75.54**	**75.54**	**59.41**	**59.41**	**45.78**	**47.67**	**47.67**	**45.78**	**32.25**	**32.25**	**34.33**	**34.33**	**30.63**	**30.63**	**16.61**	**16.61**	**16.61**	**16.61**	**16.61**	**16.61**
Maximum Annual Total (tons/year)	**11.79**																																	

Construction Equipment SOx Emissions from Power Block Construction

	SOx Emissions (lbs/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.19	0.19	0.19	0.19	0.19	0.19	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	0.26	0.26	0.26	0.13	0.13	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	0.29	0.29	0.29	0.29	0.29	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cranes	0.11	0.11	0.11	0.11	0.21	0.21	0.42	0.42	0.53	0.53	0.64	0.64	0.64	0.64	0.64	0.64	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.21	0.21	0.21	0.21	0.21	0.21
Tractor/Loader/Backhoe	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rubber Tired Loader	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Crawler Tractor	0.36	0.36	0.36	0.36	0.36	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressor	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.09	0.09	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Forklift	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Roller	0.14	0.14	0.14	0.14	0.14	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.05	0.05	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other General Industrial Equipment	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	**1.97**	**1.97**	**1.97**	**1.79**	**1.89**	**1.66**	**1.87**	**1.87**	**1.98**	**1.88**	**1.99**	**2.08**	**2.08**	**1.94**	**1.94**	**1.94**	**1.55**	**1.55**	**1.20**	**1.24**	**1.24**	**1.20**	**0.88**	**0.88**	**0.93**	**0.93**	**0.83**	**0.83**	**0.43**	**0.43**	**0.43**	**0.43**	**0.43**	**0.43**
Onsite Total (lbs/day) [a]	**0.09**	**0.09**	**0.09**	**0.08**	**0.08**	**0.07**	**0.08**	**0.08**	**0.09**	**0.08**	**0.09**	**0.09**	**0.09**	**0.08**	**0.08**	**0.08**	**0.07**	**0.07**	**0.05**	**0.05**	**0.05**	**0.05**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**
Maximum Annual Total (tons/year)	**0.01**																																	

Table 5.1A.11R Onsite Construction Equipment Exhaust Emissions

Construction Equipment PM_{10} Emissions from Power Block Construction

	PM_{10} Emissions (lbs/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	8.69	8.69	8.69	8.69	8.69	8.69	8.69	8.69	8.69	8.69	8.69	8.69	3.74	3.74	3.74	3.74	3.74	3.74	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	9.72	9.72	9.72	4.86	4.86	9.72	9.72	9.72	9.72	9.72	7.57	7.57	7.57	7.57	7.57	7.57	3.79	3.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	25.05	25.05	25.05	25.05	25.05	12.53	12.53	12.53	12.53	12.53	10.81	10.81	10.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cranes	6.41	6.41	6.41	6.41	12.82	12.82	25.64	25.64	32.05	32.05	32.39	32.39	32.39	32.39	32.39	32.39	21.59	21.59	21.59	21.59	21.59	21.59	18.62	18.62	18.62	18.62	18.62	18.62	9.31	9.31	9.31	9.31	9.31	9.31
Tractor/Loader/Backhoe	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.49	2.49	2.49	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rubber Tired Loader	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52
Crawler Tractor	15.96	15.96	15.96	15.96	15.96	7.98	7.98	7.98	7.98	7.98	7.26	7.26	7.26	7.26	7.26	7.26	7.26	7.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressor	10.63	10.63	10.63	10.63	10.63	10.63	10.63	10.63	10.63	5.32	4.62	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95
Forklift	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39
Roller	11.02	11.02	11.02	11.02	11.02	7.34	7.34	7.34	7.34	7.34	5.99	5.99	5.99	5.99	5.99	5.99	3.00	3.00	0.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other General Industrial Equipment	5.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64	3.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	**107.68**	**107.68**	**107.68**	**97.83**	**104.24**	**84.92**	**97.74**	**97.74**	**104.15**	**98.83**	**88.54**	**93.15**	**93.15**	**82.35**	**82.35**	**82.35**	**64.77**	**64.77**	**50.73**	**53.72**	**53.72**	**50.73**	**33.71**	**33.71**	**37.35**	**37.35**	**31.21**	**31.21**	**18.16**	**18.16**	**18.16**	**18.16**	**18.16**	**18.16**
Onsite Total (lbs/day) *	**4.68**	**4.68**	**4.68**	**4.25**	**4.53**	**3.69**	**4.25**	**4.25**	**4.53**	**4.30**	**3.85**	**4.05**	**4.05**	**3.58**	**3.58**	**3.58**	**2.82**	**2.82**	**2.21**	**2.34**	**2.34**	**2.21**	**1.47**	**1.47**	**1.62**	**1.62**	**1.36**	**1.36**	**0.79**	**0.79**	**0.79**	**0.79**	**0.79**	**0.79**
Maximum Annual Total (tons/year)	**0.60**																																	

Construction Equipment $PM_{2.5}$ Emissions from Power Block Construction

	$PM_{2.5}$ Emissions (lbs/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	3.44	3.44	3.44	3.44	3.44	3.44	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	8.94	8.94	8.94	4.47	4.47	8.94	8.94	8.94	8.94	8.94	6.96	6.96	6.96	6.96	6.96	6.96	3.48	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	23.05	23.05	23.05	23.05	23.05	11.53	11.53	11.53	11.53	11.53	9.94	9.94	9.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cranes	5.90	5.90	5.90	5.90	11.79	11.79	23.59	23.59	29.49	29.49	29.80	29.80	29.80	29.80	29.80	29.80	19.86	19.86	19.86	19.86	19.86	19.86	17.13	17.13	17.13	17.13	17.13	17.13	8.57	8.57	8.57	8.57	8.57	8.57
Tractor/Loader/Backhoe	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	3.36	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.29	2.29	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rubber Tired Loader	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32
Crawler Tractor	14.68	14.68	14.68	14.68	14.68	7.34	7.34	7.34	7.34	7.34	6.68	6.68	6.68	6.68	6.68	6.68	6.68	6.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressor	10.63	10.63	10.63	10.63	10.63	10.63	10.63	10.63	10.63	5.32	4.62	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	9.23	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95	3.95
Forklift	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	4.98	4.98	4.98	4.98	4.98	4.98	4.98	4.98	4.98	4.98	4.98	4.98	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
Roller	10.13	10.13	10.13	10.13	10.13	6.76	6.76	6.76	6.76	6.76	5.51	5.51	5.51	5.51	5.51	5.51	2.76	2.76	0.00	2.76	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other General Industrial Equipment	4.60	4.60	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.35	3.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	**99.92**	**99.92**	**99.92**	**90.86**	**96.75**	**78.98**	**90.77**	**90.77**	**96.67**	**91.36**	**81.82**	**86.44**	**86.44**	**76.50**	**76.50**	**76.50**	**60.33**	**60.33**	**47.41**	**50.17**	**50.17**	**47.41**	**31.33**	**31.33**	**34.68**	**34.68**	**29.04**	**29.04**	**17.03**	**17.03**	**17.03**	**17.03**	**17.03**	**17.03**
Onsite Total (lbs/day) *	**4.34**	**4.34**	**4.34**	**3.95**	**4.21**	**3.43**	**3.95**	**3.95**	**4.20**	**3.97**	**3.56**	**3.76**	**3.76**	**3.33**	**3.33**	**3.33**	**2.62**	**2.62**	**2.06**	**2.18**	**2.18**	**2.06**	**1.36**	**1.36**	**1.51**	**1.51**	**1.26**	**1.26**	**0.74**	**0.74**	**0.74**	**0.74**	**0.74**	**0.74**
Maximum Annual Total (tons/year)	**0.55**																																	

Construction Equipment CO_2 Emissions from Power Block Construction

	CO_2 Emissions (metric tons/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	14.47	14.47	14.47	14.47	14.47	14.47	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	20.40	20.40	20.40	10.20	10.20	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	10.20	10.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grader	21.23	21.23	21.23	21.23	21.23	10.61	10.61	10.61	10.61	10.61	10.61	10.61	10.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cranes	7.75	7.75	7.75	7.75	15.51	15.51	31.02	31.02	38.77	38.77	46.52	46.52	46.52	46.52	46.52	46.52	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	15.51	15.51	15.51	15.51	15.51	15.51
Tractor/Loader/Backhoe	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rubber Tired Loader	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71
Crawler Tractor	28.29	28.29	28.29	28.29	28.29	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	14.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Air Compressor	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	4.02	4.02	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02
Forklift	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52
Roller	11.41	11.41	11.41	11.41	11.41	7.61	7.61	7.61	7.61	7.61	7.61	7.61	7.61	7.61	7.61	7.61	3.80	3.80	0.00	3.80	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other General Industrial Equipment	4.67	4.67	4.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.67	4.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (metric tons/month)	**147.52**	**147.52**	**147.52**	**132.65**	**140.40**	**122.04**	**137.55**	**137.55**	**145.30**	**141.28**	**149.03**	**153.06**	**153.06**	**142.44**	**142.44**	**142.44**	**112.93**	**112.93**	**84.78**	**88.58**	**88.58**	**84.78**	**63.77**	**63.77**	**68.44**	**68.44**	**60.73**	**60.73**	**30.75**	**30.75**	**30.75**	**30.75**	**30.75**	**30.75**
Onsite Total (metric tons/day) *	**6.41**	**6.41**	**6.41**	**5.77**	**6.10**	**5.31**	**5.98**	**5.98**	**6.32**	**6.14**	**6.48**	**6.65**	**6.65**	**6.19**	**6.19**	**6.19**	**4.91**	**4.91**	**3.69**	**3.85**	**3.85**	**3.69**	**2.77**	**2.77**	**2.98**	**2.98**	**2.64**	**2.64**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**
Maximum Annual Total (metric tons/year)	**1,706.95**																																	

Construction Equipment N_2O Emissions from Power Block Construction

	N_2O Emissions (metric tons/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Excavator	0.0005	0.0005	0.0005	0.0003	0.0003	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Grader	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cranes	0.0002	0.0002	0.0002	0.0002	0.0004	0.0004	0.0008	0.0008	0.0010	0.0010	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Tractor/Loader/Backhoe	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Rubber Tired Loader	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Crawler Tractor	0.0007	0.0007	0.0007	0.0007	0.0007	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Air Compressor	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Forklift	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Roller	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other General Industrial Equipment	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Onsite Total (metric tons/month)	**0.0038**	**0.0038**	**0.0038**	**0.0034**	**0.0036**	**0.0031**	**0.0035**	**0.0035**	**0.0037**	**0.0036**	**0.0038**	**0.0039**	**0.0039**	**0.0036**	**0.0036**	**0.0036**	**0.0029**	**0.0029**	**0.0022**	**0.0023**	**0.0023**	**0.0022**	**0.0016**	**0.0016**	**0.0017**	**0.0017**	**0.0015**	**0.0015**	**0.0008**	**0.0008**	**0.0008**	**0.0008**	**0.0008**	**0.0008**
Onsite Total (metric tons/day) *	**0.0002**	**0.0002**	**0.0002**	**0.0001**	**0.0002**	**0.0001**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Maximum Annual Total (metric tons/year)	**0.0435**																																	

Table 5.1A.11R Onsite Construction Equipment Exhaust Emissions

Construction Equipment CH_4 Emissions from Power Block Construction

	CH_4 Emissions (metric tons/month)																																		
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Excavator	0.0012	0.0012	0.0012	0.0006	0.0006	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0006	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Grader	0.0012	0.0012	0.0012	0.0012	0.0012	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cranes	0.0004	0.0004	0.0004	0.0004	0.0009	0.0009	0.0018	0.0018	0.0022	0.0022	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
Tractor/Loader/Backhoe	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Rubber Tired Loader	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Crawler Tractor	0.0016	0.0016	0.0016	0.0016	0.0016	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Air Compressor	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Forklift	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Roller	0.0006	0.0006	0.0006	0.0006	0.0006	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0002	0.0000	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other General Industrial Equipment	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Onsite Total (metric tons/month)	**0.0084**	**0.0084**	**0.0084**	**0.0075**	**0.0080**	**0.0069**	**0.0078**	**0.0078**	**0.0083**	**0.0080**	**0.0085**	**0.0087**	**0.0087**	**0.0081**	**0.0081**	**0.0081**	**0.0064**	**0.0064**	**0.0048**	**0.0050**	**0.0050**	**0.0048**	**0.0036**	**0.0036**	**0.0039**	**0.0039**	**0.0034**	**0.0034**	**0.0017**	**0.0017**	**0.0017**	**0.0017**	**0.0017**	**0.0017**
Onsite Total (metric tons/day) [a]	**0.0004**	**0.0004**	**0.0004**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0004**	**0.0003**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0003**	**0.0003**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Maximum Annual Total (metric tons/year)	**0.0970**																																	

Notes:
[a] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls', the days per month are as follows: 23

Table 5.1A.12R Onsite Construction Fugitive Dust Emissions

Grading and Bulldozing Activity Levels for Power Block Construction

	Monthly Activity Levels																																			
Source	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Disturbance (acres) [a]	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bulldozing Operation (hours) [b]	460	460	460	460	460	230	230	230	230	230	230	230	230	230	230	230	230	230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
[a] A total of 27.45 acres is disturbed during Power Block Construction as estimated from the 'acreage calcs.pdf' assumed this disturbance was equally distributed amongst the months in which graders and/or crawler tractors (for bulldozing) are utiliz
[b] Crawler Tractor Operation calculated based on the number of equipment and the hours of operation per month, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'

Hours per Day: 10
Days per Month: 23

Onsite Construction Vehicle Fugitive PM_{10} Emissions from Power Block Construction

	Fugitive PM_{10} Emissions (lbs/day) [a]																																			
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	1.69	1.69	1.69	1.69	1.69	1.69	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Dump Truck	5.07	5.07	5.07	5.07	5.07	3.38	3.38	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Onsite Total (lbs/day)	**11.83**	**11.83**	**11.83**	**11.83**	**11.83**	**10.14**	**10.14**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**8.45**	**7.61**	**7.61**	**7.61**	**7.61**	**7.61**	**4.23**	**4.23**	**4.23**	**4.23**	**4.23**	**4.23**	**4.23**	**2.54**	**2.54**	**2.54**	**2.54**	**2.54**

	Fugitive PM_{10} Emissions (lbs/month)																																			
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	38.88	38.88	38.88	38.88	38.88	38.88	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Dump Truck	116.64	116.64	116.64	116.64	116.64	77.76	77.76	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44
Onsite Total (lbs/month)	**272.17**	**272.17**	**272.17**	**272.17**	**272.17**	**233.29**	**233.29**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**194.41**	**174.97**	**174.97**	**174.97**	**174.97**	**174.97**	**97.20**	**97.20**	**97.20**	**97.20**	**97.20**	**97.20**	**58.32**	**58.32**	**58.32**	**58.32**	**58.32**	**58.32**
Maximum Annual Onsite Total (tons/year)	**1.40**																																	

Notes:
[a] Emissions based on highest (controlled) unpaved road emission factor for PI_{10}.

Onsite Construction Vehicle Fugitive $PM_{2.5}$ Emissions from Power Block Construction

	Fugitive $PM_{2.5}$ Emissions (lbs/day) [a]																																			
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Stake Truck	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Dump Truck	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Onsite Total (lbs/day)	**1.18**	**1.18**	**1.18**	**1.18**	**1.18**	**1.01**	**1.01**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.85**	**0.76**	**0.76**	**0.76**	**0.76**	**0.76**	**0.42**	**0.42**	**0.42**	**0.42**	**0.42**	**0.42**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**

	Fugitive $PM_{2.5}$ Emissions (lbs/month)																																			
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	3.89	3.89	3.89	3.89	3.89	3.89	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Stake Truck	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Dump Truck	11.66	11.66	11.66	11.66	11.66	7.78	7.78	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94
Onsite Total (lbs/month)	**27.22**	**27.22**	**27.22**	**27.22**	**27.22**	**23.33**	**23.33**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**19.44**	**17.50**	**17.50**	**17.50**	**17.50**	**17.50**	**9.72**	**9.72**	**9.72**	**9.72**	**9.72**	**9.72**	**5.83**	**5.83**	**5.83**	**5.83**	**5.83**	**5.83**
Maximum Annual Onsite Total (tons/year)	**0.14**																																	

Notes:
[a] Emissions based on the highest (controlled) unpaved road emission factor for $PI_{2.5}$.

Onsite Grading and Bulldozing Fugitive PM_{10} Emissions from Power Block Construction

	Fugitive PM_{10} Emissions (lbs/day) [a]																																			
Construction Activity	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Grading [b]	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing	5.87	5.87	5.87	5.87	5.87	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/day)	5.90	5.90	5.90	5.90	5.90	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	2.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Fugitive PM_{10} Emissions (lbs/month) [a]																																			
Construction Activity	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Grading	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing	135.05	135.05	135.05	135.05	135.05	67.52	67.52	67.52	67.52	67.52	67.52	67.52	67.52	67.52	67.52	67.52	67.52	67.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	135.68	135.68	135.68	135.68	135.68	68.15	68.15	68.15	68.15	68.15	68.15	68.15	68.15	68.15	68.15	68.15	68.15	68.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Annual Onsite Total (tons/year)	**0.58**																																	

Notes:
[a] Work days per month are as follows, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 23
[b] Per Section 4.3 of Appendix A of the *CalEEMod User's Guide* (Environ, 2013), the following blade width was assumed for grading equipme 12 ft

Onsite Grading and Bulldozing Fugitive $PM_{2.5}$ Emissions from Power Block Construction

	Fugitive $PM_{2.5}$ Emissions (lbs/day) [a]																																			
Construction Activity	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Grading [b]	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bulldozing	3.227	3.227	3.227	3.227	3.227	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Onsite Total (lbs/day)	3.230	3.230	3.230	3.230	3.230	1.617	1.617	1.617	1.617	1.617	1.617	1.617	1.617	1.617	1.617	1.617	1.617	1.617	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

	Fugitive $PM_{2.5}$ Emissions (lbs/month) [a]																																			
Construction Activity	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Grading	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing	74.23	74.23	74.23	74.23	74.23	37.12	37.12	37.12	37.12	37.12	37.12	37.12	37.12	37.12	37.12	37.12	37.12	37.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total (lbs/month)	74.30	74.30	74.30	74.30	74.30	37.18	37.18	37.18	37.18	37.18	37.18	37.18	37.18	37.18	37.18	37.18	37.18	37.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Annual Onsite Total (tons/year)	**0.32**																																	

Notes:
[a] Work days per month are as follows, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 23
[b] Per Section 4.3 of Appendix A of the *CalEEMod User's Guide* (Environ, 2013), the following blade width was assumed for grading equipme 12 ft

Onsite Construction Vehicle Activity for Power Block Construction

Vehicle Type	**Miles/Day [a]**	**Working Days per Month [b]**
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
[a] Estimated based on the dimensions of the project site.
[b] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'.

Table 5.1A.12R Onsite Construction Fugitive Dust Emissions

Fugitive Dust Emission Factors for Unpaved Roads

Vehicles on Unpaved Surfaces at Industrial Sites

Parameter	PM_{10}	$PM_{2.5}$
Mean Vehicle Weight [a]	16.5	16.5
Silt Content [b]	8.5	8.5
k [c]	1.5	0.15
a [c]	0.9	0.9
b [c]	0.45	0.45
P [d]	31	31
Emission Factor (Uncontrolled, lbs/mile) [e]	2.17	0.22
Reduction from Watering 3x per Day [f]	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
[a] Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons
[b] Silt content taken from Table 13.2.2-1 of Section 13.2.2 of *AP-42* (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
[c] k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of *AP-42* (EPA, 2006) for industrial roads.
[d] P taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin.
[e] Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of *AP-42* (EPA, 2006):
Emission Factor (lbs/mile) = [k (lbs/mile) x [Silt Content (%) / 12]^{a} x [Mean Vehicle Weight (tons) / 3]^{b} x [(365 - P) / 365]
[f] Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads

Fugitive Dust Emission Factors for Grading

Grading Equipment Passes

Parameter	PM_{10}	$PM_{2.5}$
S (mph) [a]	7.1	7.1
F [a]	0.6	0.031
Emission Factor (lbs/VMT) [b]	1.543	0.167
Reduction from Watering Every 3 Hours [c]	61%	61%
Emission Factor (Controlled, lbs/VMT)	0.602	0.065

Notes:
[a] The mean vehicle speed (S) and the particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of *AP-42* (EPA, 1998) per Section 4.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
[b] Emission factor calculated using the following equation from Section 4.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013):
PM_{10} Emission Factor (lbs/VMT) = 0.051 x $(S/2.0)^{2.5}$ x F_{PM10}
$PM_{2.5}$ Emission Factor (lbs/VMT) = 0.04 x $(S/2.0)^{2.5}$ x $F_{PM2.5}$
[c] Control efficiency taken from Table XI-A of the *CEQA Handbook* for Construction Activities (SCAQMD, 2007).

Fugitive Dust Emission Factors for Bulldozing

Bulldozing Equipment Passes

Parameter	PM_{10}	$PM_{2.5}$
C [a]	1.0	5.7
M (%) [a]	7.9	7.9
s (%) [a]	6.9	6.9
F [a]	0.75	0.105
Emission Factor (lbs/hr) [b]	0.753	0.414
Reduction from Watering Every 3 Hours [c]	61%	61%
Emission Factor (Controlled, lbs/hr)	0.294	0.161

Notes:
[a] The arbitrary coefficient (C), material moisture content (M), material silt content (s), and particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of *AP-42* (EPA, 1998) per Section 4.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
[b] Emission factor calculated using the following equation from Section 4.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013):
PM_{10} Emission Factor (lbs/hr) = [(C x $s^{1.5}$) / $M^{1.4}$] x F_{PM10}
$PM_{2.5}$ Emission Factor (lbs/hr) = [(C x $s^{1.2}$) / $M^{1.3}$] x $F_{PM2.5}$
[c] Control efficiency taken from Table XI-A of the *CEQA Handbook* for Construction Activities (SCAQMD, 2007).

Table 5.1A.13R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle Usage During Power Block Construction

	Number per Day																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks [a]	0.000	0.000	0.750	0.750	0.750	0.750	0.750	0.750	0.750	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.500	0.500	0.500	0.500	0.500	0.500
Material Hauling Trucks [b]	0.375	3.375	3.375	3.875	5.125	7.250	8.750	8.750	10.750	12.250	12.850	11.750	11.850	12.250	11.500	11.500	9.500	9.500	9.500	7.500	9.500	7.500	6.500	6.500	6.500	6.500	5.500	5.500	1.500	1.500	1.500	1.500	1.700	1.700
Construction Worker Commute [c]	37.000	49.000	69.000	79.000	109.000	111.000	110.000	132.000	134.000	142.000	146.000	176.000	230.000	230.000	230.000	230.000	290.000	291.000	291.000	286.000	312.000	317.000	321.000	269.000	251.000	260.000	233.000	184.000	108.000	107.000	105.000	93.000	89.000	40.000

Notes:
[a] Offsite Delivery Trucks include trucks transporting "Consumables & Supplies", as provided in 'Redondo Beach Truck Deliveries 10.11.12.x
[b] Material Hauling Trucks include trucks transporting "Fill Material", "Mechanical Equipment", "Electrical Equip. & Mtrls", "Piping, Supports, & Valves", "Concrete and Rebar", "Steel/Architectural", "Contractor Mobilization", "Contractor Demobilization", "Construction Equipment", "HRSGs", "CGTs", "CTGs", "STGs", and "Main Transformers", as provided in 'Redondo Beach Truck Deliveries 10.11
[c] Assumed 1 commute per 1 worker; number of workers include 'Power Block Construction' and 'Construct Control/Admin Bldg, Water Treatment Bldg, and Souns Wall' as provided in 'Manpower Schedule Redondo Beach 10.31.1

Offsite Vehicle CO Emissions from Power Block Construction

	CO Emissions (lbs/day)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Material Hauling Trucks	0.03	0.23	0.23	0.26	0.35	0.49	0.59	0.59	0.73	0.83	0.87	0.80	0.80	0.83	0.78	0.78	0.64	0.64	0.64	0.51	0.64	0.51	0.44	0.44	0.44	0.44	0.37	0.37	0.10	0.10	0.10	0.10	0.12	0.12
Construction Worker Commute	3.29	4.35	6.13	7.02	9.69	9.86	9.78	11.73	11.91	12.62	12.97	15.64	20.44	20.44	20.44	20.44	25.77	25.86	25.86	25.42	27.73	28.17	28.53	23.91	22.31	23.11	20.71	16.35	9.60	9.51	9.33	8.26	7.91	3.55
Offsite Total (lbs/day)	**3.31**	**4.58**	**6.38**	**7.31**	**10.06**	**10.38**	**10.39**	**12.35**	**12.66**	**13.48**	**13.88**	**16.47**	**21.28**	**21.30**	**21.25**	**21.25**	**26.45**	**26.54**	**26.54**	**25.96**	**28.40**	**28.71**	**29.00**	**24.38**	**22.78**	**23.58**	**21.11**	**16.76**	**9.72**	**9.63**	**9.45**	**8.38**	**8.04**	**3.69**

	CO Emissions (lbs/month)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.37	0.37	0.37	0.37	0.37	0.37
Material Hauling Trucks	0.58	5.26	5.26	6.04	7.99	11.31	13.65	13.65	16.76	19.10	20.04	18.32	18.48	19.10	17.93	17.93	14.81	14.81	14.81	11.70	14.81	11.70	10.14	10.14	10.14	10.14	8.58	8.58	2.34	2.34	2.34	2.34	2.65	2.65
Construction Worker Commute	75.63	100.15	141.03	161.47	222.79	226.88	224.83	269.80	273.89	290.24	298.41	359.73	470.10	470.10	470.10	470.10	592.74	594.78	594.78	584.56	637.70	647.92	656.10	549.82	513.02	531.42	476.23	376.08	220.74	218.70	214.61	190.08	181.91	81.78
Offsite Total (lbs/month)	**76.21**	**105.42**	**146.85**	**168.07**	**231.34**	**238.74**	**239.04**	**284.00**	**291.21**	**310.08**	**319.20**	**378.80**	**489.33**	**489.95**	**488.78**	**488.78**	**608.30**	**610.34**	**610.34**	**597.00**	**653.26**	**660.36**	**666.98**	**560.70**	**523.91**	**542.30**	**485.56**	**385.40**	**223.46**	**221.41**	**217.32**	**192.80**	**184.93**	**84.78**
Maximum Annual Total (tons/year)	**3.51**																																	

Offsite Vehicle VOC Emissions from Power Block Construction

	VOC Emissions (lbs/day)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Material Hauling Trucks	0.01	0.05	0.05	0.06	0.08	0.11	0.13	0.13	0.16	0.18	0.19	0.18	0.18	0.18	0.17	0.17	0.14	0.14	0.14	0.11	0.14	0.11	0.10	0.10	0.10	0.10	0.08	0.08	0.02	0.02	0.02	0.02	0.03	0.03
Construction Worker Commute	0.07	0.09	0.13	0.14	0.20	0.20	0.20	0.24	0.24	0.26	0.26	0.32	0.42	0.42	0.42	0.42	0.53	0.53	0.53	0.52	0.57	0.57	0.58	0.49	0.45	0.47	0.42	0.33	0.20	0.19	0.19	0.17	0.16	0.07
Offsite Total (lbs/day)	**0.07**	**0.14**	**0.18**	**0.21**	**0.28**	**0.32**	**0.34**	**0.38**	**0.41**	**0.45**	**0.46**	**0.50**	**0.60**	**0.61**	**0.60**	**0.60**	**0.67**	**0.68**	**0.68**	**0.64**	**0.71**	**0.69**	**0.69**	**0.59**	**0.56**	**0.58**	**0.51**	**0.42**	**0.22**	**0.22**	**0.22**	**0.19**	**0.19**	**0.10**

	VOC Emissions (lbs/month)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.08	0.08	0.08	0.08	0.08	0.08
Material Hauling Trucks	0.13	1.16	1.16	1.34	1.77	2.50	3.02	3.02	3.71	4.23	4.43	4.06	4.09	4.23	3.97	3.97	3.28	3.28	3.28	2.59	3.28	2.59	2.24	2.24	2.24	2.24	1.90	1.90	0.52	0.52	0.52	0.52	0.59	0.59
Construction Worker Commute	1.54	2.04	2.88	3.29	4.54	4.63	4.58	5.50	5.58	5.92	6.08	7.33	9.58	9.58	9.58	9.58	12.09	12.13	12.13	11.92	13.00	13.21	13.38	11.21	10.46	10.83	9.71	7.67	4.50	4.46	4.38	3.88	3.71	1.67
Offsite Total (lbs/month)	**1.67**	**3.21**	**4.16**	**4.75**	**6.43**	**7.25**	**7.72**	**8.64**	**9.41**	**10.31**	**10.68**	**11.55**	**13.83**	**13.97**	**13.71**	**13.71**	**15.52**	**15.57**	**15.57**	**14.67**	**16.44**	**15.96**	**15.78**	**13.61**	**12.86**	**13.24**	**11.77**	**9.73**	**5.10**	**5.06**	**4.97**	**4.47**	**4.38**	**2.33**
Maximum Annual Total (tons/year)	**0.09**																																	

Offsite Vehicle SOx Emissions from Power Block Construction

	SOx Emissions (lbs/day)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.0000	0.0000	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Material Hauling Trucks	0.0004	0.0040	0.0040	0.0046	0.0061	0.0087	0.0105	0.0105	0.0129	0.0147	0.0154	0.0141	0.0142	0.0147	0.0138	0.0138	0.0114	0.0114	0.0114	0.0090	0.0114	0.0090	0.0078	0.0078	0.0078	0.0078	0.0066	0.0066	0.0018	0.0018	0.0018	0.0018	0.0020	0.0020
Construction Worker Commute	0.0098	0.0129	0.0182	0.0208	0.0288	0.0293	0.0290	0.0348	0.0354	0.0375	0.0385	0.0464	0.0607	0.0607	0.0607	0.0607	0.0765	0.0768	0.0768	0.0755	0.0823	0.0837	0.0847	0.0710	0.0662	0.0686	0.0615	0.0486	0.0285	0.0282	0.0277	0.0245	0.0235	0.0106
Offsite Total (lbs/day)	**0.0102**	**0.0170**	**0.0226**	**0.0259**	**0.0353**	**0.0383**	**0.0399**	**0.0457**	**0.0486**	**0.0526**	**0.0544**	**0.0610**	**0.0754**	**0.0759**	**0.0750**	**0.0750**	**0.0884**	**0.0887**	**0.0887**	**0.0850**	**0.0942**	**0.0931**	**0.0930**	**0.0793**	**0.0745**	**0.0769**	**0.0686**	**0.0556**	**0.0305**	**0.0303**	**0.0298**	**0.0266**	**0.0258**	**0.0128**

	SOx Emissions (lbs/month)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.000	0.000	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.006	0.006	0.006	0.006	0.006	0.006
Material Hauling Trucks	0.010	0.093	0.093	0.107	0.141	0.200	0.241	0.241	0.296	0.337	0.354	0.323	0.326	0.337	0.317	0.317	0.262	0.262	0.262	0.206	0.262	0.206	0.179	0.179	0.179	0.179	0.151	0.151	0.041	0.041	0.041	0.041	0.047	0.047
Construction Worker Commute	0.225	0.297	0.419	0.480	0.662	0.674	0.668	0.801	0.813	0.862	0.886	1.068	1.396	1.396	1.396	1.396	1.760	1.766	1.766	1.736	1.894	1.924	1.948	1.633	1.524	1.578	1.414	1.117	0.656	0.649	0.637	0.564	0.540	0.243
Offsite Total (lbs/month)	**0.235**	**0.390**	**0.520**	**0.595**	**0.811**	**0.882**	**0.917**	**1.051**	**1.118**	**1.211**	**1.251**	**1.403**	**1.734**	**1.745**	**1.724**	**1.724**	**2.033**	**2.039**	**2.039**	**1.954**	**2.167**	**2.142**	**2.139**	**1.823**	**1.714**	**1.769**	**1.577**	**1.280**	**0.703**	**0.697**	**0.684**	**0.612**	**0.593**	**0.295**
Maximum Annual Total (tons/year)	**0.012**																																	

Offsite Vehicle NOx Emissions from Power Block Construction

	NOx Emissions (lbs/day)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.17	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.07	0.07	0.07	0.07	0.07	0.07
Material Hauling Trucks	0.14	1.27	1.27	1.46	1.93	2.73	3.30	3.30	4.05	4.62	4.39	4.01	4.05	4.18	3.93	3.93	3.25	3.25	3.25	2.56	3.25	2.56	2.03	2.03	2.03	2.03	1.71	1.71	0.47	0.47	0.47	0.47	0.53	0.53
Construction Worker Commute	0.32	0.43	0.60	0.69	0.95	0.97	0.96	1.15	1.17	1.24	1.15	1.39	1.82	1.82	1.82	1.82	2.29	2.30	2.30	2.26	2.47	2.51	2.33	1.96	1.82	1.89	1.69	1.34	0.79	0.78	0.76	0.68	0.65	0.29
Offsite Total (lbs/day)	**0.46**	**1.70**	**2.00**	**2.27**	**3.01**	**3.83**	**4.38**	**4.57**	**5.35**	**6.02**	**5.70**	**5.56**	**6.02**	**6.16**	**5.90**	**5.90**	**5.69**	**5.70**	**5.70**	**4.98**	**5.87**	**5.22**	**4.50**	**4.13**	**4.00**	**4.06**	**3.55**	**3.20**	**1.32**	**1.32**	**1.30**	**1.22**	**1.25**	**0.89**

	NOx Emissions (lbs/month)																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	2.89	2.89	2.89	2.89	2.89	2.89	2.89	3.85	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.33	3.33	3.33	3.33	3.33	3.33	1.66	1.66	1.66	1.66	1.66	1.66
Material Hauling Trucks	3.25	29.25	29.25	33.59	44.42	62.84	75.84	75.84	93.17	106.17	100.96	92.32	93.10	96.25	90.35	90.35	74.64	74.64	74.64	58.93	74.64	58.93	46.59	46.59	46.59	46.59	39.43	39.43	10.75	10.75	10.75	10.75	12.19	12.19
Construction Worker Commute	7.42	9.83	13.84	15.85	21.87	22.27	22.07	26.48	26.88	28.48	26.54	32.00	41.81	41.81	41.81	41.81	52.72	52.90	52.90	51.99	56.72	57.63	53.67	44.97	41.96	43.47	38.95	30.76	18.06	17.89	17.55	15.55	14.88	6.69
Offsite Total (lbs/month)	**10.67**	**39.08**	**45.98**	**52.32**	**69.17**	**87.99**	**100.79**	**105.20**	**122.94**	**138.51**	**131.06**	**127.87**	**138.48**	**141.62**	**135.73**	**135.73**	**130.92**	**131.10**	**131.10**	**114.48**	**134.92**	**120.12**	**103.59**	**94.89**	**91.89**	**93.39**	**81.71**	**73.52**	**30.47**	**30.31**	**29.97**	**27.96**	**28.73**	**20.54**
Maximum Annual Total (tons/year)	**0.80**																																	

Offsite Vehicle PM_{10} Emissions from Power Block Construction

	PM_{10} Emissions (lbs/day) [a]																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Material Hauling Trucks	0.02	0.15	0.15	0.17	0.22	0.31	0.38	0.38	0.46	0.53	0.55	0.50	0.51	0.52	0.49	0.49	0.40	0.40	0.40	0.32	0.40	0.32	0.27	0.27	0.27	0.27	0.23	0.23	0.06	0.06	0.06	0.06	0.07	0.07
Construction Worker Commute	0.83	1.10	1.55	1.78	2.45	2.50	2.47	2.97	3.01	3.19	3.28	3.96	5.17	5.17	5.17	5.17	6.52	6.54	6.54	6.43	7.02	7.13	7.22	6.05	5.64	5.85	5.24	4.14	2.43	2.41	2.36	2.09	2.00	0.90
Offsite Total (lbs/day)	**0.85**	**1.25**	**1.71**	**1.95**	**2.68**	**2.82**	**2.86**	**3.36**	**3.49**	**3.73**	**3.85**	**4.47**	**5.69**	**5.71**	**5.68**	**5.68**	**6.94**	**6.96**	**6.96**	**6.77**	**7.44**	**7.46**	**7.51**	**6.34**	**5.93**	**6.14**	**5.49**	**4.38**	**2.50**	**2.48**	**2.43**	**2.16**	**2.08**	**0.98**

	PM_{10} Emissions (lbs/month) [a]																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.16	0.16	0.16	0.16	0.16	0.16
Material Hauling Trucks	0.37	3.34	3.34	3.83	5.07	7.17	8.65	8.65	10.63	12.11	12.60	11.52	11.62	12.01	11.27	11.27	9.31	9.31	9.31	7.35	9.31	7.35	6.32	6.32	6.32	6.32	5.35	5.35	1.46	1.46	1.46	1.46	1.65	1.65
Construction Worker Commute	19.14	25.35	35.70	40.87	56.39	57.42	56.91	68.29	69.32	73.46	75.52	91.04	118.97	118.97	118.97	118.97	150.00	150.52	150.52	147.93	161.38	163.97	166.02	139.13	129.82	134.47	120.51	95.17	55.86	55.34	54.31	48.10	46.03	20.69
Offsite Total (lbs/month)	**19.51**	**28.69**	**39.28**	**44.94**	**61.70**	**64.84**	**65.80**	**77.18**	**80.20**	**85.90**	**88.44**	**102.88**	**130.91**	**131.30**	**130.57**	**130.57**	**159.64**	**160.16**	**160.16**	**155.61**	**171.02**	**171.65**	**172.67**	**145.78**	**136.47**	**141.12**	**126.18**	**100.84**	**57.48**	**56.96**	**55.93**	**49.72**	**47.85**	**22.50**
Maximum Annual Total (tons/year)	**0.92**																																	

Notes:
[a] PM_{10} Emissions include emissions from exhaust and paved road

Offsite Vehicle $PM_{2.5}$ Emissions from Power Block Construction

	$PM_{2.5}$ Emissions (lbs/day) [a]																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.000	0.000	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.003	0.003	0.003	0.003	0.003	0.003
Material Hauling Trucks	0.006	0.055	0.055	0.063	0.083	0.118	0.142	0.142	0.175	0.199	0.205	0.187	0.189	0.195	0.183	0.183	0.151	0.151	0.151	0.119	0.151	0.119	0.102	0.102	0.102	0.102	0.086	0.086	0.023	0.023	0.023	0.023	0.027	0.027
Construction Worker Commute	0.227	0.300	0.423	0.484	0.668	0.680	0.674	0.809	0.821	0.870	0.894	1.078	1.409	1.409	1.409	1.409	1.776	1.782	1.782	1.751	1.911	1.941	1.969	1.647	1.537	1.592	1.427	1.127	0.661	0.655	0.643	0.569	0.545	0.245
Offsite Total (lbs/day)	**0.233**	**0.355**	**0.482**	**0.551**	**0.755**	**0.802**	**0.820**	**0.955**	**1.000**	**1.074**	**1.104**	**1.270**	**1.603**	**1.609**	**1.597**	**1.597**	**1.933**	**1.939**	**1.939**	**1.876**	**2.067**	**2.066**	**2.072**	**1.754**	**1.644**	**1.699**	**1.518**	**1.218**	**0.687**	**0.681**	**0.669**	**0.595**	**0.574**	**0.274**

	$PM_{2.5}$ Emissions (lbs/month) [a]																															
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.06	0.06	0.06	0.06	0.06	0.06
Material Hauling Trucks	0.14	1.26	1.26	1.45	1.92	2.71	3.27	3.27	4.02	4.58	4.71	4.31	4.34	4.49	4.21	4.21	3.48	3.48	3.48	2.75	3.48	2.75	2.34	2.34	2.34	2.34	1.98	1.98	0.54	0.54	0.54	0.54	0.61	0.61
Construction Worker Commute	5.21	8.90	9.72	11.13	15.36	15.64	15.50	18.60	18.88	20.01	20.56	24.79	32.40	32.40	32.40	32.40	40.85	40.99	40.99	40.28	43.95	44.65	45.20	37.88	35.35	36.61	32.81	25.91	15.21	15.07	14.79	13.10	12.53	5.63
Offsite Total (lbs/month)	**5.35**	**8.17**	**11.08**	**12.67**	**17.37**	**18.44**	**18.86**	**21.96**	**22.99**	**24.71**	**25.39**	**29.22**	**36.86**	**37.00**	**36.73**	**36.73**	**44.45**	**44.59**	**44.59**	**43.15**	**47.55**	**47.52**	**47.66**	**40.34**	**37.80**	**39.07**	**34.91**	**28.01**	**15.81**	**15.67**	**15.39**	**13.70**	**13.20**	**6.30**
Maximum Annual Total (tons/year)	**0.26**																																	

Notes:
[a] $PM_{2.5}$ Emissions include emissions from exhaust and paved road

Table 5.1A.13R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle CO_2 Emissions from Power Block Construction

	CO_2 Emissions (metric tons/day)																														
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.000	0.000	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.013	0.013	0.013	0.013	0.013	0.013
Material Hauling Trucks	0.021	0.190	0.190	0.219	0.289	0.409	0.494	0.494	0.606	0.691	0.725	0.663	0.668	0.691	0.649	0.649	0.536	0.536	0.536	0.423	0.536	0.423	0.367	0.367	0.367	0.367	0.310	0.310	0.085	0.085	0.085	0.085	0.096	0.096
Construction Worker Commute	0.468	0.619	0.872	0.998	1.377	1.403	1.390	1.668	1.693	1.794	1.845	2.224	2.907	2.907	2.907	2.907	3.665	3.677	3.677	3.614	3.943	4.006	4.057	3.399	3.172	3.286	2.944	2.325	1.365	1.352	1.327	1.175	1.125	0.505
Offsite Total (metric tons/day)	**0.489**	**0.810**	**1.081**	**1.236**	**1.685**	**1.831**	**1.903**	**2.181**	**2.319**	**2.511**	**2.595**	**2.912**	**3.600**	**3.623**	**3.580**	**3.580**	**4.226**	**4.239**	**4.239**	**4.063**	**4.504**	**4.454**	**4.448**	**3.791**	**3.564**	**3.678**	**3.280**	**2.661**	**1.462**	**1.449**	**1.424**	**1.273**	**1.233**	**0.614**

	CO_2 Emissions (metric tons/month)																														
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00	0.00	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.29	0.29	0.29	0.29	0.29	0.29
Material Hauling Trucks	0.49	4.38	4.38	5.03	6.65	9.40	11.35	11.35	13.95	15.89	16.67	15.24	15.37	15.89	14.92	14.92	12.32	12.32	12.32	9.73	12.32	9.73	8.43	8.43	8.43	8.43	7.13	7.13	1.95	1.95	1.95	1.95	2.21	2.21
Construction Worker Commute	10.75	14.24	20.06	22.96	31.68	32.26	31.97	38.37	38.95	41.27	42.44	51.16	66.85	66.85	66.85	66.85	84.29	84.58	84.58	83.13	90.68	92.14	93.30	78.19	72.95	75.57	67.72	53.48	31.39	31.10	30.52	27.03	25.87	11.63
Offsite Total (metric tons/month)	**11.24**	**18.62**	**24.87**	**28.42**	**38.77**	**42.10**	**43.76**	**50.15**	**53.33**	**57.75**	**59.69**	**66.98**	**82.80**	**83.32**	**82.35**	**82.35**	**97.20**	**97.49**	**97.49**	**93.44**	**103.59**	**102.45**	**102.31**	**87.20**	**81.97**	**84.58**	**75.44**	**61.20**	**33.63**	**33.34**	**32.76**	**29.27**	**28.36**	**14.12**
Maximum Annual Total (metric tons/year)	**1,112.41**																																	

Offsite Vehicle N_2O Emissions from Power Block Construction

	N_2O Emissions (metric tons/day)																														
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00000000	0.00000000	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003
Material Hauling Trucks	0.00000007	0.00000065	0.00000065	0.00000074	0.00000098	0.00000139	0.00000168	0.00000168	0.00000206	0.00000235	0.00000247	0.00000226	0.00000228	0.00000235	0.00000221	0.00000221	0.00000182	0.00000182	0.00000182	0.00000144	0.00000182	0.00000144	0.00000125	0.00000125	0.00000125	0.00000125	0.00000106	0.00000106	0.00000029	0.00000029	0.00000029	0.00000029	0.00000033	0.00000033
Construction Worker Commute	0.00000392	0.00000519	0.00000730	0.00000836	0.00001154	0.00001175	0.00001164	0.00001397	0.00001418	0.00001503	0.00001545	0.00001863	0.00002434	0.00002434	0.00002434	0.00002434	0.00003069	0.00003080	0.00003080	0.00003027	0.00003302	0.00003355	0.00003397	0.00002847	0.00002657	0.00002752	0.00002466	0.00001947	0.00001143	0.00001132	0.00001111	0.00000984	0.00000942	0.00000423
Offsite Total (metric tons/day)	**0.00000399**	**0.00000583**	**0.00000800**	**0.00000916**	**0.00001257**	**0.00001319**	**0.00001337**	**0.00001570**	**0.00001630**	**0.00001745**	**0.00001799**	**0.00002095**	**0.00002668**	**0.00002676**	**0.00002662**	**0.00002662**	**0.00003258**	**0.00003269**	**0.00003269**	**0.00003178**	**0.00003491**	**0.00003506**	**0.00003529**	**0.00002979**	**0.00002788**	**0.00002883**	**0.00002578**	**0.00002060**	**0.00001175**	**0.00001165**	**0.00001143**	**0.00001016**	**0.00000978**	**0.00000459**

	N_2O Emissions (metric tons/month)																														
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.000000	0.000000	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001
Material Hauling Trucks	0.000002	0.000015	0.000015	0.000017	0.000023	0.000032	0.000039	0.000039	0.000047	0.000054	0.000057	0.000052	0.000052	0.000054	0.000051	0.000051	0.000042	0.000042	0.000042	0.000033	0.000042	0.000033	0.000029	0.000029	0.000029	0.000029	0.000024	0.000024	0.000007	0.000007	0.000007	0.000007	0.000008	0.000008
Construction Worker Commute	0.000090	0.000119	0.000168	0.000192	0.000265	0.000270	0.000268	0.000321	0.000326	0.000346	0.000355	0.000428	0.000560	0.000560	0.000560	0.000560	0.000706	0.000708	0.000708	0.000696	0.000760	0.000772	0.000781	0.000655	0.000611	0.000633	0.000567	0.000448	0.000263	0.000260	0.000256	0.000226	0.000217	0.000097
Offsite Total (metric tons/month)	**0.000092**	**0.000134**	**0.000184**	**0.000211**	**0.000289**	**0.000303**	**0.000308**	**0.000361**	**0.000375**	**0.000401**	**0.000414**	**0.000482**	**0.000614**	**0.000616**	**0.000612**	**0.000612**	**0.000749**	**0.000752**	**0.000752**	**0.000731**	**0.000803**	**0.000806**	**0.000812**	**0.000685**	**0.000641**	**0.000663**	**0.000593**	**0.000474**	**0.000270**	**0.000268**	**0.000263**	**0.000234**	**0.000225**	**0.000106**
Maximum Annual Total (metric tons/year)	**0.008619**																																	

Offsite Vehicle CH_4 Emissions from Power Block Construction

	CH_4 Emissions (metric tons/day)																														
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.00000000	0.00000000	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004
Material Hauling Trucks	0.00000008	0.00000069	0.00000069	0.00000079	0.00000105	0.00000148	0.00000179	0.00000179	0.00000219	0.00000250	0.00000262	0.00000240	0.00000242	0.00000250	0.00000235	0.00000235	0.00000194	0.00000194	0.00000194	0.00000153	0.00000194	0.00000153	0.00000133	0.00000133	0.00000133	0.00000133	0.00000112	0.00000112	0.00000031	0.00000031	0.00000031	0.00000031	0.00000035	0.00000035
Construction Worker Commute	0.00001882	0.00002492	0.00003509	0.00004018	0.00005544	0.00005646	0.00005595	0.00006714	0.00006816	0.00007222	0.00007426	0.00008952	0.00011698	0.00011698	0.00011698	0.00011698	0.00014801	0.00014801	0.00014801	0.00014547	0.00015869	0.00016123	0.00016327	0.00013682	0.00012766	0.00013224	0.00011851	0.00009359	0.00005493	0.00005442	0.00005341	0.00004730	0.00004527	0.00002034
Offsite Total (metric tons/day)	**0.00001890**	**0.00002561**	**0.00003584**	**0.00004102**	**0.00005654**	**0.00005799**	**0.00005779**	**0.00006898**	**0.00007040**	**0.00007479**	**0.00007695**	**0.00009198**	**0.00011947**	**0.00011955**	**0.00011940**	**0.00011940**	**0.00014951**	**0.00015002**	**0.00015002**	**0.00014707**	**0.00016070**	**0.00016283**	**0.00016466**	**0.00013822**	**0.00012906**	**0.00013364**	**0.00011970**	**0.00009478**	**0.00005527**	**0.00005476**	**0.00005375**	**0.00004764**	**0.00004565**	**0.00002073**

	CH_4 Emissions (metric tons/month)																														
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Offsite Delivery Trucks	0.000000	0.000000	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001
Material Hauling Trucks	0.000002	0.000016	0.000016	0.000018	0.000024	0.000034	0.000041	0.000041	0.000050	0.000057	0.000060	0.000055	0.000056	0.000057	0.000054	0.000054	0.000045	0.000045	0.000045	0.000035	0.000045	0.000035	0.000030	0.000030	0.000030	0.000030	0.000026	0.000026	0.000007	0.000007	0.000007	0.000007	0.000008	0.000008
Construction Worker Commute	0.000433	0.000573	0.000807	0.000924	0.001275	0.001299	0.001287	0.001544	0.001568	0.001661	0.001708	0.002059	0.002691	0.002691	0.002691	0.002691	0.003392	0.003404	0.003404	0.003346	0.003650	0.003708	0.003755	0.003147	0.002936	0.003042	0.002726	0.002152	0.001263	0.001252	0.001228	0.001088	0.001041	0.000468
Offsite Total (metric tons/month)	**0.000435**	**0.000589**	**0.000824**	**0.000944**	**0.001300**	**0.001334**	**0.001329**	**0.001586**	**0.001619**	**0.001720**	**0.001770**	**0.002116**	**0.002748**	**0.002750**	**0.002746**	**0.002746**	**0.003439**	**0.003450**	**0.003450**	**0.003383**	**0.003696**	**0.003745**	**0.003787**	**0.003179**	**0.002968**	**0.003074**	**0.002753**	**0.002180**	**0.001271**	**0.001260**	**0.001236**	**0.001096**	**0.001050**	**0.000477**
Maximum Annual Total (metric tons/year)	**0.039671**																																	

Offsite Construction Vehicle Activity for Power Block Construction

Vehicle Type	**Roundtrip Miles/Day**	**Working Days per Month [c]**
Offsite Delivery Trucks [a]	13.8	23
Material Hauling Trucks [a]	40.0	23
Construction Worker Commute [a]	29.4	23

Notes:

[a] Roundtrip miles/day taken for the South Coast Air Basin from Table 4.2 (Urban C-NW and H-W values) of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] Roundtrip miles/day taken for from Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[c] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'.

Table 5.1A.14R Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Power Block Construction

Emission Source	Pollutant(s)	Equation	Variables
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM_{10}, and $PM_{2.5}$	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)
			EF = Emission factor (g/bhp-hr)
			N = Number of pieces of equipment
			Hp = Average horsepower
			L = Average load factor
			H = Hours per month
			453.6 = Conversion from g to lbs
		$E_d = E_m / D$	E_d = Emissions (lbs/day)
			E_m = Emissions (lbs/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2{,}000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons
	CO_2	$E_m = N * FC * EF * H * 0.001$	E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
			FC = Fuel consumption (gallons/hour)
			EF = Emission factor (kg/gallon)
			H = Hours per month
			0.001 = Conversion from kg to metric tons
		$E_d = E_m / D$	E_d = Emissions (metric tons/day)
			E_m = Emissions (metric tons/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
	CH_4 and N_2O	$E_m = N * FC * EF * H / 1{,}000 * 0.001$	E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
			FC = Fuel consumption (gallons/hour)
			EF = Emission factor (g/gallon)
			H = Hours per month
			1,000 = Conversion from g to kg
			0.001 = Conversion from kg to metric tons
		$E_d = E_m / D$	E_d = Emissions (metric tons/day)
			E_m = Emissions (metric tons/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM_{10} and $PM_{2.5}$	CO, VOC, NOx, SOx, PM_{10}, and $PM_{2.5}$	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			EF = EMFAC2011 emission factor (g/mile). Paved and unpaved road fugitive PM_{10} and $PM_{2.5}$ emission factors calculated per Sections 13.2.1 and 13.2.2 of *AP-42* (EPA, 2011 and 2006),
			453.6 = Conversion from g to lbs
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2{,}000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons

Table 5.1A.14R Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Power Block Construction

Emission Source	Pollutant(s)	Equation	Variables
Onsite and Offsite Vehicle Exhaust	CO_2	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			FE = Fuel economy (mpg)
			EF = Emission factor (kg/gallon)
			0.001 = Conversion from kg to metric tons
		$E_m = E_d * D$	E_m = Emissions (metric tons/month)
			E_d = Emissions (metric tons/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
	CH_4 and N_2O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			EF = Emission factor (g/mile)
			1,000 = Conversion from g to kg
			0.001 = Conversion from kg to metric tons
		$E_m = E_d * D$	E_m = Emissions (metric tons/month)
			E_d = Emissions (metric tons/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
Onsite and Offsite Fugitive PM_{10} and $PM_{2.5}$ from Grading	PM_{10} and $PM_{2.5}$	$E_d = EF \times A / W \times 43,560 / 5,280 / D$	E_d = Emissions (lbs/day)
			EF = Fugitive PM_{10} and $PM_{2.5}$ emission factors (lbs/mile), calculated per Section 4.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
			A = Site disturbed (acres/month)
			W = Grading equipment blade width (ft)
			43,560 = Conversion factor from square feet to acres
			5,280 = Conversion factor from feet to miles
			D = Number of construction days per month
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2,000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons
Onsite Fugitive PM_{10} and $PM_{2.5}$ from Bulldozing	PM_{10} and $PM_{2.5}$	$E_d = EF \times H / D$	E_d = Emissions (lbs/day)
			EF = Fugitive PM_{10} and $PM_{2.5}$ emission factors (lbs/hr), calculated per Section 4.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
			H = Hours per month for all bulldozers
			D = Number of construction days per month
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2,000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons

Table 5.1A.15R Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Power Block Construction

	Number per Month [a]																																	
Onsite Equipment	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Water Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0
Excavator	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grader	2	2	2	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cranes [b]	1	1	1	1	2	2	4	4	5	5	6	6	6	6	6	6	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2	2	2
Tractor/Loader/Backhoe	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Rubber Tired Loader [c]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Crawler Tractor [d]	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressor	2	2	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Forklift	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Roller [e]	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Other General Industrial Equipment [f]	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0

Notes:
[a] Equipment counts taken from 'RBEP Equipment Usage 10.11.12.xls'.
[b] Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane, the 35 Ton Hydraulic Crane, the Heavy Lift Lattice Boom Main Crane, the Heavy Lift Lattice Boom Tail Crane, and the Heavy Lift Gantry Crane.
[c] Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.
[d] Numbers presented for Crawler Tractor includes the equipment counts for the Dozer
[e] Numbers presented for Roller includes the equipment counts for the Compactor.
[f] Numbers presented for Other General Industrial Equipment includes the equipment counts for the Pile Driver.

Number of Onsite Motor Vehicles for Power Block Construction

	Number per Month [a]																																	
Vehicle Type	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Onsite Pick-up Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0
Onsite Stake Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Dump Truck	6	6	6	6	6	4	4	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Notes:
[a] Vehicle counts taken from 'RBEP Equipment Usage 10.11.12.xls'.

Table 5.1A.16R Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Power Block Construction

Equipment [a]	Percent Usage [b]	Hours per Month [c]	Horsepower [d]	Load Factor [d]	Emission Factors (g/bhp-hr) [e]												Fuel Consumption 2017 (gallons/hour) [f]
					CO 2017	VOC 2017	NO_X 2017	NO_X 2018	NO_X 2019	SO_X 2017	PM_{10} 2017	PM_{10} 2018	PM_{10} 2019	$PM_{2.5}$ 2017	$PM_{2.5}$ 2018	$PM_{2.5}$ 2019	
Water Truck [g]	50%	115	400	0.38	1.748	0.325	3.668	3.090	2.669	0.005	0.136	0.113	0.097	0.125	0.104	0.089	12.32
Excavator	85%	196	163	0.38	3.151	0.334	3.700	2.924	2.533	0.005	0.182	0.142	0.122	0.168	0.130	0.112	5.11
Grader	80%	184	175	0.41	3.845	0.757	7.663	6.605	6.014	0.005	0.430	0.371	0.337	0.396	0.342	0.310	5.65
Cranes	65%	150	226	0.29	2.385	0.561	6.655	5.773	5.084	0.005	0.297	0.250	0.216	0.273	0.230	0.198	5.08
Tractor/Loader/Backhoe	55%	127	98	0.37	3.782	0.501	4.809	4.154	3.693	0.005	0.362	0.294	0.247	0.333	0.271	0.227	2.36
Rubber Tired Loader	55%	127	200	0.36	1.417	0.373	4.755	4.131	3.745	0.005	0.162	0.140	0.126	0.149	0.129	0.116	6.74
Crawler Tractor	80%	184	208	0.43	1.742	0.430	5.760	5.290	4.972	0.005	0.220	0.200	0.188	0.202	0.184	0.173	7.53
Air Compressor	80%	184	78	0.48	3.772	0.671	4.412	4.050	3.706	0.006	0.350	0.304	0.260	0.350	0.304	0.260	2.14
Forklift	75%	173	89	0.20	3.979	0.672	5.818	5.015	4.550	0.005	0.480	0.400	0.353	0.442	0.368	0.324	1.43
Roller	60%	138	81	0.38	3.713	0.580	5.411	4.650	4.179	0.005	0.392	0.320	0.275	0.361	0.294	0.253	2.70
Other General Industrial Equipment	70%	161	88	0.34	3.998	0.660	5.721	4.955	4.497	0.005	0.471	0.392	0.343	0.433	0.360	0.316	2.84

Notes:

[a] Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] Percent Usage assumed typical of power plant construction.

[c] Hours per month calculated based on the following schedule, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'.

Work hours per day: 10

Work days per month: 23

[d] Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

[e] Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2017 were used for the construction equipment exhaust emission calculations for CO, VOC, and SO_x. The emission factors for years 2017, 2018, and 2019 were used for NO_x, PM_{10}, and $PM_{2.5}$.

[f] Fuel consumption based on consumption in the OFFROAD2007 model for the SCAB in the year 2017; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).

[g] Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.17R Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Power Block Construction

Vehicle Type	Vehicle Class [a]	Exhaust Emission Factors (g/mile) [b]												Paved Road Emission Factors (g/mile) [c]		Fuel Economy
		CO 2017	VOC 2017	SO_X 2017	NO_X 2017	NO_X 2018	NO_X 2019	PM_{10} 2017	PM_{10} 2018	PM_{10} 2019	$PM_{2.5}$ 2017	$PM_{2.5}$ 2018	$PM_{2.5}$ 2019	PM_{10}	$PM_{2.5}$	2017 (mpg) [d]
Onsite Pick-up Truck	Light-duty Truck	3.996	0.259	0.005	0.385	0.353	0.323	0.062	0.061	0.061	0.033	0.033	0.032	N/A	N/A	18.177
Onsite Stake Truck	Heavy-duty Diesel	6.096	3.101	0.016	18.082	16.770	15.730	0.220	0.213	0.207	0.149	0.143	0.137	N/A	N/A	5.568
Onsite Dump Truck	Heavy-duty Diesel	6.096	3.101	0.016	18.082	16.770	15.730	0.220	0.213	0.207	0.149	0.143	0.137	N/A	N/A	5.568
Offsite Delivery Trucks	Heavy-duty Diesel	1.064	0.229	0.016	5.500	5.087	4.756	0.164	0.164	0.163	0.097	0.097	0.097	0.300	0.075	5.568
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.769	0.170	0.014	4.273	3.874	3.534	0.187	0.183	0.179	0.109	0.106	0.102	0.300	0.075	7.241
Construction Worker Commute	Light-duty Auto/Truck	1.371	0.028	0.004	0.135	0.122	0.112	0.047	0.046	0.046	0.019	0.019	0.019	0.300	0.075	20.427

Notes:

[a] The vehicle classes are represented as follows:

Light-duty Truck: Assumed to be an average of LDT1, All and LDT2, All values.

Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2017 for CO, VOC, and SO_x. Calendar years 2017, 2018, and 2019 were used for NO_x, PM_{10}, and $PM_{2.5}$. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

[c] Paved road emission factors calculated using CalEEMod methodology, as described below.

[d] Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2017, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM_{10}	$PM_{2.5}$
Average Weight [a]	2.4	2.4
k [b]	1.0	0.25
sL [c]	0.1	0.1
Emission Factor (g/mile) [d]	0.300	0.075

Notes:

[a] Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).

[c] sL taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin.

[d] Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):

Emission Factor (g/mile) = k (g/mile) x [sL (g/m^2)]$^{0.91}$ x [Average Weight (tons)]$^{1.02}$

Table 5.1A.18R Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Power Block Construction

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO_2 Emission Factors			
Gasoline	8.78	kg CO_2/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO_2/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N_2O Emission Factors			
Gasoline Passenger Car Model Year 2010 [a]	0.0036	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 [a]	0.0066	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 [a]	0.0048	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N_2O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH_4 Emission Factors			
Gasoline Passenger Car Model Year 2010 [a]	0.0173	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 [a]	0.0163	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 [a]	0.0051	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH_4/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

[a] Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.19R Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from Demolition of Units 7&8 and 5&6

	CO Emisisons (lbs/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33	114.33
Excavator	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53	164.53
Cranes	125.77	125.77	125.77	125.77	125.77	167.69	167.69	167.69	167.69	167.69	167.69	167.69	167.69	167.69	167.69	167.69	167.69	167.69	125.77	125.77	125.77	125.77	125.77	125.77
Rubber Tired Loader	78.46	78.46	78.46	78.46	78.46	78.46	104.61	104.61	104.61	104.61	104.61	104.61	130.76	130.76	130.76	130.76	130.76	130.76	78.46	78.46	78.46	78.46	78.46	78.46
Air Compressor	112.93	112.93	112.93	112.93	112.93	112.93	169.40	169.40	169.40	169.40	169.40	169.40	225.87	225.87	225.87	225.87	225.87	225.87	112.93	112.93	112.93	112.93	112.93	112.93
Forklift	51.50	51.50	51.50	51.50	51.50	51.50	103.00	103.00	103.00	103.00	103.00	103.00	103.00	103.00	103.00	103.00	103.00	103.00	51.50	51.50	51.50	51.50	51.50	51.50
Onsite Total (lbs/month)	**647.53**	**647.53**	**647.53**	**647.53**	**647.53**	**689.45**	**823.57**	**823.57**	**823.57**	**823.57**	**823.57**	**823.57**	**906.19**	**906.19**	**906.19**	**906.19**	**906.19**	**906.19**	**647.53**	**647.53**	**647.53**	**647.53**	**647.53**	**647.53**
Onsite Total (lbs/day) [a]	**28.15**	**28.15**	**28.15**	**28.15**	**28.15**	**29.98**	**35.81**	**35.81**	**35.81**	**35.81**	**35.81**	**35.81**	**39.40**	**39.40**	**39.40**	**39.40**	**39.40**	**39.40**	**28.15**	**28.15**	**28.15**	**28.15**	**28.15**	**28.15**
Maximum Annual Total (tons/year)	**5.19**																							

Construction Equipment VOC Emissions from Demolition of Units 7&8 and 5&6

	VOC Emisisons (lbs/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31	20.31
Excavator	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15	13.15
Cranes	27.65	27.65	27.65	27.65	27.65	36.86	36.86	36.86	36.86	36.86	36.86	36.86	36.86	36.86	36.86	36.86	36.86	36.86	27.65	27.65	27.65	27.65	27.65	27.65
Rubber Tired Loader	18.64	18.64	18.64	18.64	18.64	18.64	24.85	24.85	24.85	24.85	24.85	24.85	31.06	31.06	31.06	31.06	31.06	31.06	18.64	18.64	18.64	18.64	18.64	18.64
Air Compressor	16.34	16.34	16.34	16.34	16.34	16.34	24.51	24.51	24.51	24.51	24.51	24.51	32.68	32.68	32.68	32.68	32.68	32.68	16.34	16.34	16.34	16.34	16.34	16.34
Forklift	6.90	6.90	6.90	6.90	6.90	6.90	13.80	13.80	13.80	13.80	13.80	13.80	13.80	13.80	13.80	13.80	13.80	13.80	6.90	6.90	6.90	6.90	6.90	6.90
Onsite Total (lbs/month)	**102.98**	**102.98**	**102.98**	**102.98**	**102.98**	**112.19**	**133.47**	**133.47**	**133.47**	**133.47**	**133.47**	**133.47**	**147.86**	**147.86**	**147.86**	**147.86**	**147.86**	**147.86**	**102.98**	**102.98**	**102.98**	**102.98**	**102.98**	**102.98**
Onsite Total (lbs/day) [a]	**4.48**	**4.48**	**4.48**	**4.48**	**4.48**	**4.88**	**5.80**	**5.80**	**5.80**	**5.80**	**5.80**	**5.80**	**6.43**	**6.43**	**6.43**	**6.43**	**6.43**	**6.43**	**4.48**	**4.48**	**4.48**	**4.48**	**4.48**	**4.48**
Maximum Annual Total (tons/year)	**0.84**																							

Construction Equipment NOx Emissions from Demolition of Units 7&8 and 5&6

	NOx Emissions (lbs/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	205.67	205.67	205.67	205.67	205.67	205.67	205.67	205.67	205.67	205.67	205.67	205.67	180.87	180.87	180.87	180.87	180.87	180.87	180.87	180.87	180.87	180.87	180.87	180.87
Excavator	135.22	135.22	135.22	135.22	135.22	135.22	135.22	135.22	135.22	135.22	135.22	135.22	121.65	121.65	121.65	121.65	121.65	121.65	121.65	121.65	121.65	121.65	121.65	121.65
Cranes	329.47	329.47	329.47	329.47	329.47	439.30	439.30	439.30	439.30	439.30	439.30	439.30	394.29	394.29	394.29	394.29	394.29	394.29	295.72	295.72	295.72	295.72	295.72	295.72
Rubber Tired Loader	225.56	225.56	225.56	225.56	225.56	225.56	300.75	300.75	300.75	300.75	300.75	300.75	343.47	343.47	343.47	343.47	343.47	343.47	206.08	206.08	206.08	206.08	206.08	206.08
Air Compressor	112.57	112.57	112.57	112.57	112.57	112.57	168.85	168.85	168.85	168.85	168.85	168.85	206.55	206.55	206.55	206.55	206.55	206.55	103.27	103.27	103.27	103.27	103.27	103.27
Forklift	61.59	61.59	61.59	61.59	61.59	61.59	123.19	123.19	123.19	123.19	123.19	123.19	111.91	111.91	111.91	111.91	111.91	111.91	55.95	55.95	55.95	55.95	55.95	55.95
Onsite Total (lbs/month)	**1,070.09**	**1,070.09**	**1,070.09**	**1,070.09**	**1,070.09**	**1,179.91**	**1,372.98**	**1,372.98**	**1,372.98**	**1,372.98**	**1,372.98**	**1,372.98**	**1,358.73**	**1,358.73**	**1,358.73**	**1,358.73**	**1,358.73**	**1,358.73**	**963.54**	**963.54**	**963.54**	**963.54**	**963.54**	**963.54**
Onsite Total (lbs/day) [a]	**46.53**	**46.53**	**46.53**	**46.53**	**46.53**	**51.30**	**59.69**	**59.69**	**59.69**	**59.69**	**59.69**	**59.69**	**59.08**	**59.08**	**59.08**	**59.08**	**59.08**	**59.08**	**41.89**	**41.89**	**41.89**	**41.89**	**41.89**	**41.89**
Maximum Annual Total (tons/year)	**8.20**																							

Construction Equipment SOx Emissions from Demolition of Units 7&8 and 5&6

	SOx Emissions (lbs/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Excavator	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Cranes	0.32	0.32	0.32	0.32	0.32	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.32	0.32	0.32	0.32	0.32	0.32
Rubber Tired Loader	0.29	0.29	0.29	0.29	0.29	0.29	0.39	0.39	0.39	0.39	0.39	0.39	0.48	0.48	0.48	0.48	0.48	0.48	0.29	0.29	0.29	0.29	0.29	0.29
Air Compressor	0.18	0.18	0.18	0.18	0.18	0.18	0.27	0.27	0.27	0.27	0.27	0.27	0.36	0.36	0.36	0.36	0.36	0.36	0.18	0.18	0.18	0.18	0.18	0.18
Forklift	0.07	0.07	0.07	0.07	0.07	0.07	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.07	0.07	0.07	0.07	0.07	0.07
Onsite Total (lbs/month)	**1.49**	**1.49**	**1.49**	**1.49**	**1.49**	**1.60**	**1.85**	**1.85**	**1.85**	**1.85**	**1.85**	**1.85**	**2.04**	**2.04**	**2.04**	**2.04**	**2.04**	**2.04**	**1.49**	**1.49**	**1.49**	**1.49**	**1.49**	**1.49**
Onsite Total (lbs/day) [a]	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.07**	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**
Maximum Annual Total (tons/year)	**0.01**																							

Table 5.1A.19R Onsite Construction Equipment Exhaust Emissions

Construction Equipment PM_{10} Emissions from Demolition of Units 7&8 and 5&6

	PM_{10} Emissions (lbs/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	6.59	6.59	6.59	6.59	6.59	6.59	6.59	6.59	6.59	6.59	6.59	6.59
Excavator	6.52	6.52	6.52	6.52	6.52	6.52	6.52	6.52	6.52	6.52	6.52	6.52	5.89	5.89	5.89	5.89	5.89	5.89	5.89	5.89	5.89	5.89	5.89	5.89
Cranes	13.97	13.97	13.97	13.97	13.97	18.62	18.62	18.62	18.62	18.62	18.62	18.62	16.25	16.25	16.25	16.25	16.25	16.25	12.19	12.19	12.19	12.19	12.19	12.19
Rubber Tired Loader	7.56	7.56	7.56	7.56	7.56	7.56	10.08	10.08	10.08	10.08	10.08	10.08	11.41	11.41	11.41	11.41	11.41	11.41	6.84	6.84	6.84	6.84	6.84	6.84
Air Compressor	7.90	7.90	7.90	7.90	7.90	7.90	11.85	11.85	11.85	11.85	11.85	11.85	13.61	13.61	13.61	13.61	13.61	13.61	6.80	6.80	6.80	6.80	6.80	6.80
Forklift	4.77	4.77	4.77	4.77	4.77	4.77	9.54	9.54	9.54	9.54	9.54	9.54	8.34	8.34	8.34	8.34	8.34	8.34	4.17	4.17	4.17	4.17	4.17	4.17
Onsite Total (lbs/month)	**48.19**	**48.19**	**48.19**	**48.19**	**48.19**	**52.84**	**64.09**	**64.09**	**64.09**	**64.09**	**64.09**	**64.09**	**62.09**	**62.09**	**62.09**	**62.09**	**62.09**	**62.09**	**42.49**	**42.49**	**42.49**	**42.49**	**42.49**	**42.49**
Onsite Total (lbs/day) [a]	**2.10**	**2.10**	**2.10**	**2.10**	**2.10**	**2.30**	**2.79**	**2.79**	**2.79**	**2.79**	**2.79**	**2.79**	**2.70**	**2.70**	**2.70**	**2.70**	**2.70**	**2.70**	**1.85**	**1.85**	**1.85**	**1.85**	**1.85**	**1.85**
Maximum Annual Total (tons/year)	**0.38**																							

Construction Equipment $PM_{2.5}$ Emissions from Demolition of Units 7&8 and 5&6

	$PM_{2.5}$ Emissions (lbs/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	6.88	6.88	6.88	6.88	6.88	6.88	6.88	6.88	6.88	6.88	6.88	6.88	6.07	6.07	6.07	6.07	6.07	6.07	6.07	6.07	6.07	6.07	6.07	6.07
Excavator	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
Cranes	12.85	12.85	12.85	12.85	12.85	17.13	17.13	17.13	17.13	17.13	17.13	17.13	14.96	14.96	14.96	14.96	14.96	14.96	11.22	11.22	11.22	11.22	11.22	11.22
Rubber Tired Loader	6.96	6.96	6.96	6.96	6.96	6.96	9.28	9.28	9.28	9.28	9.28	9.28	10.49	10.49	10.49	10.49	10.49	10.49	6.29	6.29	6.29	6.29	6.29	6.29
Air Compressor	7.90	7.90	7.90	7.90	7.90	7.90	11.85	11.85	11.85	11.85	11.85	11.85	13.61	13.61	13.61	13.61	13.61	13.61	6.80	6.80	6.80	6.80	6.80	6.80
Forklift	4.39	4.39	4.39	4.39	4.39	4.39	8.78	8.78	8.78	8.78	8.78	8.78	7.67	7.67	7.67	7.67	7.67	7.67	3.84	3.84	3.84	3.84	3.84	3.84
Onsite Total (lbs/month)	**44.98**	**44.98**	**44.98**	**44.98**	**44.98**	**49.26**	**59.92**	**59.92**	**59.92**	**59.92**	**59.92**	**59.92**	**58.21**	**58.21**	**58.21**	**58.21**	**58.21**	**58.21**	**39.64**	**39.64**	**39.64**	**39.64**	**39.64**	**39.64**
Onsite Total (lbs/day) [a]	**1.96**	**1.96**	**1.96**	**1.96**	**1.96**	**2.14**	**2.61**	**2.61**	**2.61**	**2.61**	**2.61**	**2.61**	**2.53**	**2.53**	**2.53**	**2.53**	**2.53**	**2.53**	**1.72**	**1.72**	**1.72**	**1.72**	**1.72**	**1.72**
Maximum Annual Total (tons/year)	**0.35**																							

Construction Equipment CO_2 Emissions from Demolition of Units 7&8 and 5&6

	CO_2 Emissions (metric tons/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93	28.93
Excavator	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
Cranes	23.26	23.26	23.26	23.26	23.26	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	31.02	23.26	23.26	23.26	23.26	23.26	23.26
Rubber Tired Loader	26.12	26.12	26.12	26.12	26.12	26.12	34.82	34.82	34.82	34.82	34.82	34.82	43.53	43.53	43.53	43.53	43.53	43.53	26.12	26.12	26.12	26.12	26.12	26.12
Air Compressor	8.04	8.04	8.04	8.04	8.04	8.04	12.06	12.06	12.06	12.06	12.06	12.06	16.08	16.08	16.08	16.08	16.08	16.08	8.04	8.04	8.04	8.04	8.04	8.04
Forklift	5.00	5.00	5.00	5.00	5.00	5.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00
Onsite Total (metric tons/month)	**111.75**	**111.75**	**111.75**	**111.75**	**111.75**	**119.50**	**137.23**	**137.23**	**137.23**	**137.23**	**137.23**	**137.23**	**149.96**	**149.96**	**149.96**	**149.96**	**149.96**	**149.96**	**111.75**	**111.75**	**111.75**	**111.75**	**111.75**	**111.75**
Onsite Total (metric tons/day) [a]	**4.86**	**4.86**	**4.86**	**4.86**	**4.86**	**5.20**	**5.97**	**5.97**	**5.97**	**5.97**	**5.97**	**5.97**	**6.52**	**6.52**	**6.52**	**6.52**	**6.52**	**6.52**	**4.86**	**4.86**	**4.86**	**4.86**	**4.86**	**4.86**
Maximum Annual Total (tons/year)	**1,723.14**																							

Table 5.1A.19R Onsite Construction Equipment Exhaust Emissions

Construction Equipment N_2O Emissions from Demolition of Units 7&8 and 5&6

	N_2O Emissions (metric tons/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Excavator	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Cranes	0.0006	0.0006	0.0006	0.0006	0.0006	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Rubber Tired Loader	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Air Compressor	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Forklift	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Onsite Total (metric tons/month)	**0.0028**	**0.0028**	**0.0028**	**0.0028**	**0.0028**	**0.0030**	**0.0035**	**0.0035**	**0.0035**	**0.0035**	**0.0035**	**0.0035**	**0.0038**	**0.0038**	**0.0038**	**0.0038**	**0.0038**	**0.0038**	**0.0028**	**0.0028**	**0.0028**	**0.0028**	**0.0028**	**0.0028**
Onsite Total (metric tons/day) [a]	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0002**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Maximum Annual Total (tons/year)	**0.0439**																							

Construction Equipment CH_4 Emissions from Demolition of Units 7&8 and 5&6

	CH_4 Emissions (metric tons/month)																							
Onsite Equipment	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Water Truck	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
Excavator	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
Cranes	0.0013	0.0013	0.0013	0.0013	0.0013	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Rubber Tired Loader	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Air Compressor	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Forklift	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Onsite Total (metric tons/month)	**0.0063**	**0.0063**	**0.0063**	**0.0063**	**0.0063**	**0.0068**	**0.0078**	**0.0078**	**0.0078**	**0.0078**	**0.0078**	**0.0078**	**0.0085**	**0.0085**	**0.0085**	**0.0085**	**0.0085**	**0.0085**	**0.0063**	**0.0063**	**0.0063**	**0.0063**	**0.0063**	**0.0063**
Onsite Total (metric tons/day) [a]	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**
Maximum Annual Total (tons/year)	**0.0979**																							

Notes:
[a] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls', the days per month are as follows: 23

Table 5.1A.20R Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle CO Emissions from Demolition of Units 7&8 and 5&6

	CO Emissions (lbs/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01
Onsite Stake Truck	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.03	0.03
Onsite Dump Truck	0.05	0.05	0.05	0.05	0.05	0.05	0.14	0.14	0.14	0.14	0.14	0.14	0.16	0.16	0.16	0.16	0.16	0.16	0.05	0.05	0.05	0.05	0.05	0.05
Onsite Total (lbs/day)	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**
	CO Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.33	0.33	0.33	0.33	0.33	0.33	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.33	0.33	0.33	0.33	0.33	0.33
Onsite Stake Truck	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	1.25	1.25	1.25	1.25	1.25	1.25	0.63	0.63	0.63	0.63	0.63	0.63
Onsite Dump Truck	1.25	1.25	1.25	1.25	1.25	1.25	3.13	3.13	3.13	3.13	3.13	3.13	3.75	3.75	3.75	3.75	3.75	3.75	1.25	1.25	1.25	1.25	1.25	1.25
Onsite Total (lbs/month)	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**4.41**	**4.41**	**4.41**	**4.41**	**4.41**	**4.41**	**5.66**	**5.66**	**5.66**	**5.66**	**5.66**	**5.66**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**
Maximum Annual Total (tons/year)	**0.03**																							

Onsite Construction Vehicle VOC Emissions from Demolition of Units 7&8 and 5&6

	VOC Emisisons (lbs/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
Onsite Stake Truck	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.028	0.028	0.028	0.028	0.028	0.028	0.014	0.014	0.014	0.014	0.014	0.014
Onsite Dump Truck	0.028	0.028	0.028	0.028	0.028	0.028	0.069	0.069	0.069	0.069	0.069	0.069	0.083	0.083	0.083	0.083	0.083	0.083	0.028	0.028	0.028	0.028	0.028	0.028
Onsite Total (lbs/day)	**0.042**	**0.042**	**0.042**	**0.042**	**0.042**	**0.042**	**0.084**	**0.084**	**0.084**	**0.084**	**0.084**	**0.084**	**0.112**	**0.112**	**0.112**	**0.112**	**0.112**	**0.112**	**0.042**	**0.042**	**0.042**	**0.042**	**0.042**	**0.042**
	VOC Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02
Onsite Stake Truck	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.63	0.63	0.63	0.63	0.63	0.63	0.32	0.32	0.32	0.32	0.32	0.32
Onsite Dump Truck	0.63	0.63	0.63	0.63	0.63	0.63	1.58	1.58	1.58	1.58	1.58	1.58	1.90	1.90	1.90	1.90	1.90	1.90	0.63	0.63	0.63	0.63	0.63	0.63
Onsite Total (lbs/month)	**0.97**	**0.97**	**0.97**	**0.97**	**0.97**	**0.97**	**1.94**	**1.94**	**1.94**	**1.94**	**1.94**	**1.94**	**2.57**	**2.57**	**2.57**	**2.57**	**2.57**	**2.57**	**0.97**	**0.97**	**0.97**	**0.97**	**0.97**	**0.97**
Maximum Annual Total (tons/year)	**0.01**																							

Onsite Construction Vehicle SOx Emissions from Demolition of Units 7&8 and 5&6

	SOx Emissions (lbs/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002
Onsite Stake Truck	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00014	0.00014	0.00014	0.00014	0.00014	0.00014	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007
Onsite Dump Truck	0.00014	0.00014	0.00014	0.00014	0.00014	0.00014	0.00036	0.00036	0.00036	0.00036	0.00036	0.00036	0.00043	0.00043	0.00043	0.00043	0.00043	0.00043	0.00014	0.00014	0.00014	0.00014	0.00014	0.00014
Onsite Total (lbs/day)	**0.00024**	**0.00024**	**0.00024**	**0.00024**	**0.00024**	**0.00024**	**0.00047**	**0.00047**	**0.00047**	**0.00047**	**0.00047**	**0.00047**	**0.00062**	**0.00062**	**0.00062**	**0.00062**	**0.00062**	**0.00062**	**0.00024**	**0.00024**	**0.00024**	**0.00024**	**0.00024**	**0.00024**
	SOx Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Onsite Stake Truck	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017
Onsite Dump Truck	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033
Onsite Total (lbs/month)	**0.0054**	**0.0054**	**0.0054**	**0.0054**	**0.0054**	**0.0054**	**0.0109**	**0.0109**	**0.0109**	**0.0109**	**0.0109**	**0.0109**	**0.0142**	**0.0142**	**0.0142**	**0.0142**	**0.0142**	**0.0142**	**0.0054**	**0.0054**	**0.0054**	**0.0054**	**0.0054**	**0.0054**
Maximum Annual Total (tons/year)	**0.0001**																							

Onsite Construction Vehicle NOx Emissions from Demolition of Units 7&8 and 5&6

	NOx Emissions (lbs/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.001	0.001	0.001	0.001	0.001	0.001
Onsite Stake Truck	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.124	0.124	0.124	0.124	0.124	0.124	0.062	0.062	0.062	0.062	0.062	0.062
Onsite Dump Truck	0.139	0.139	0.139	0.139	0.139	0.139	0.347	0.347	0.347	0.347	0.347	0.347	0.372	0.372	0.372	0.372	0.372	0.372	0.124	0.124	0.124	0.124	0.124	0.124
Onsite Total (lbs/day)	**0.209**	**0.209**	**0.209**	**0.209**	**0.209**	**0.209**	**0.419**	**0.419**	**0.419**	**0.419**	**0.419**	**0.419**	**0.499**	**0.499**	**0.499**	**0.499**	**0.499**	**0.499**	**0.187**	**0.187**	**0.187**	**0.187**	**0.187**	**0.187**
	NOx Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.03	0.03	0.03	0.03	0.03	0.03	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.03	0.03	0.03	0.03	0.03	0.03
Onsite Stake Truck	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	2.85	2.85	2.85	2.85	2.85	2.85	1.43	1.43	1.43	1.43	1.43	1.43
Onsite Dump Truck	3.19	3.19	3.19	3.19	3.19	3.19	7.98	7.98	7.98	7.98	7.98	7.98	8.56	8.56	8.56	8.56	8.56	8.56	2.85	2.85	2.85	2.85	2.85	2.85
Onsite Total (lbs/month)	**4.82**	**4.82**	**4.82**	**4.82**	**4.82**	**4.82**	**9.64**	**9.64**	**9.64**	**9.64**	**9.64**	**9.64**	**11.47**	**11.47**	**11.47**	**11.47**	**11.47**	**11.47**	**4.31**	**4.31**	**4.31**	**4.31**	**4.31**	**4.31**
Maximum Annual Total (tons/year)	**0.06**																							

Onsite Construction Vehicle PM_{10} Emissions from Demolition of Units 7&8 and 5&6

	PM_{10} Emissions (lbs/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Onsite Stake Truck	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
Onsite Dump Truck	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0051	0.0051	0.0051	0.0051	0.0051	0.0051	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017
Onsite Total (lbs/day)	**0.0030**	**0.0030**	**0.0030**	**0.0030**	**0.0030**	**0.0030**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0074**	**0.0074**	**0.0074**	**0.0074**	**0.0074**	**0.0074**	**0.0028**	**0.0028**	**0.0028**	**0.0028**	**0.0028**	**0.0028**
	PM_{10} Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.006	0.006	0.006	0.006	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.006	0.006	0.006	0.006	0.006	0.006
Onsite Stake Truck	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.039	0.039	0.039	0.039	0.039	0.039	0.020	0.020	0.020	0.020	0.020	0.020
Onsite Dump Truck	0.042	0.042	0.042	0.042	0.042	0.042	0.105	0.105	0.105	0.105	0.105	0.105	0.118	0.118	0.118	0.118	0.118	0.118	0.039	0.039	0.039	0.039	0.039	0.039
Onsite Total (lbs/month)	**0.069**	**0.069**	**0.069**	**0.069**	**0.069**	**0.069**	**0.138**	**0.138**	**0.138**	**0.138**	**0.138**	**0.138**	**0.169**	**0.169**	**0.169**	**0.169**	**0.169**	**0.169**	**0.065**	**0.065**	**0.065**	**0.065**	**0.065**	**0.065**
Maximum Annual Total (tons/year)	**0.001**																							

Redondo Beach Energy Project
Construction Emission Estimates - Demolition of Units 5-8
December 2013

Table 5.1A.20R Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle $PM_{2.5}$ Emissions from Demolition of Units 7&8 and 5&6

	$PM_{2.5}$ Emissions (lbs/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Onsite Stake Truck	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Onsite Dump Truck	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011
Onsite Total (lbs/day)	**0.0020**	**0.0020**	**0.0020**	**0.0020**	**0.0020**	**0.0020**	**0.0039**	**0.0039**	**0.0039**	**0.0039**	**0.0039**	**0.0039**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0047**	**0.0018**	**0.0018**	**0.0018**	**0.0018**	**0.0018**	**0.0018**
	$PM_{2.5}$ Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.003	0.003	0.003	0.003	0.003	0.003	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.003	0.003	0.003	0.003	0.003	0.003
Onsite Stake Truck	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.025	0.025	0.025	0.025	0.025	0.025	0.013	0.013	0.013	0.013	0.013	0.013
Onsite Dump Truck	0.028	0.028	0.028	0.028	0.028	0.028	0.070	0.070	0.070	0.070	0.070	0.070	0.076	0.076	0.076	0.076	0.076	0.076	0.025	0.025	0.025	0.025	0.025	0.025
Onsite Total (lbs/month)	**0.045**	**0.045**	**0.045**	**0.045**	**0.045**	**0.045**	**0.090**	**0.090**	**0.090**	**0.090**	**0.090**	**0.090**	**0.108**	**0.108**	**0.108**	**0.108**	**0.108**	**0.108**	**0.041**	**0.041**	**0.041**	**0.041**	**0.041**	**0.041**
Maximum Annual Total (tons/year)	**0.001**																							

Onsite Construction Vehicle CO_2 Emissions from Demolition of Units 7&8 and 5&6

	CO_2 Emissions (metric tons/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
Onsite Stake Truck	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.007	0.007	0.007	0.004	0.004	0.004	0.004	0.004	0.004
Onsite Dump Truck	0.007	0.007	0.007	0.007	0.007	0.007	0.018	0.018	0.018	0.018	0.018	0.018	0.022	0.022	0.022	0.022	0.022	0.022	0.007	0.007	0.007	0.007	0.007	0.007
Onsite Total (metric tons/day)	**0.012**	**0.012**	**0.012**	**0.012**	**0.012**	**0.012**	**0.024**	**0.024**	**0.024**	**0.024**	**0.024**	**0.024**	**0.031**	**0.031**	**0.031**	**0.031**	**0.031**	**0.031**	**0.012**	**0.012**	**0.012**	**0.012**	**0.012**	**0.012**
	CO_2 Emissions (metric tons/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02
Onsite Stake Truck	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.17	0.17	0.17	0.17	0.17	0.17	0.08	0.08	0.08	0.08	0.08	0.08
Onsite Dump Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.42	0.42	0.42	0.42	0.42	0.42	0.50	0.50	0.50	0.50	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Total (metric tons/month)	**0.27**	**0.27**	**0.27**	**0.27**	**0.27**	**0.27**	**0.55**	**0.55**	**0.55**	**0.55**	**0.55**	**0.55**	**0.72**	**0.72**	**0.72**	**0.72**	**0.72**	**0.72**	**0.27**	**0.27**	**0.27**	**0.27**	**0.27**	**0.27**
Maximum Annual Total (tons/year)	**7.59**																							

Onsite Construction Vehicle N_2O Emissions from Demolition of Units 7&8 and 5&6

	N_2O Emissions (metric tons/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Stake Truck	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Dump Truck	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000006	0.00000006	0.00000006	0.00000006	0.00000006	0.00000006	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002
Onsite Total (metric tons/day)	**0.00000004**	**0.00000004**	**0.00000004**	**0.00000004**	**0.00000004**	**0.00000004**	**0.00000008**	**0.00000008**	**0.00000008**	**0.00000008**	**0.00000008**	**0.00000008**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000010**	**0.00000004**	**0.00000004**	**0.00000004**	**0.00000004**	**0.00000004**	**0.00000004**
	N_2O Emissions (metric tons/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000006	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003	0.0000003
Onsite Stake Truck	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002
Onsite Dump Truck	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000011	0.0000011	0.0000011	0.0000011	0.0000011	0.0000011	0.0000013	0.0000013	0.0000013	0.0000013	0.0000013	0.0000013	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004
Onsite Total (metric tons/month)	**0.0000010**	**0.0000010**	**0.0000010**	**0.0000010**	**0.0000010**	**0.0000010**	**0.0000019**	**0.0000019**	**0.0000019**	**0.0000019**	**0.0000019**	**0.0000019**	**0.0000024**	**0.0000024**	**0.0000024**	**0.0000024**	**0.0000024**	**0.0000024**	**0.0000010**	**0.0000010**	**0.0000010**	**0.0000010**	**0.0000010**	**0.0000010**
Maximum Annual Total (tons/year)	**0.0000258**																							

Onsite Construction Vehicle CH_4 Emissions from Demolition of Units 7&8 and 5&6

	CH_4 Emissions (metric tons/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003
Onsite Stake Truck	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001	0.00000001
Onsite Dump Truck	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000005	0.00000006	0.00000006	0.00000006	0.00000006	0.00000006	0.00000006	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002
Onsite Total (metric tons/day)	**0.00000006**	**0.00000006**	**0.00000006**	**0.00000006**	**0.00000006**	**0.00000006**	**0.00000013**	**0.00000013**	**0.00000013**	**0.00000013**	**0.00000013**	**0.00000013**	**0.00000015**	**0.00000015**	**0.00000015**	**0.00000015**	**0.00000015**	**0.00000015**	**0.00000006**	**0.00000006**	**0.00000006**	**0.00000006**	**0.00000006**	**0.00000006**
	CH_4 Emissions (metric tons/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007
Onsite Stake Truck	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002	0.0000002
Onsite Dump Truck	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000012	0.0000012	0.0000012	0.0000012	0.0000012	0.0000012	0.0000014	0.0000014	0.0000014	0.0000014	0.0000014	0.0000014	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005
Onsite Total (metric tons/month)	**0.0000015**	**0.0000015**	**0.0000015**	**0.0000015**	**0.0000015**	**0.0000015**	**0.0000029**	**0.0000029**	**0.0000029**	**0.0000029**	**0.0000029**	**0.0000029**	**0.0000034**	**0.0000034**	**0.0000034**	**0.0000034**	**0.0000034**	**0.0000034**	**0.0000015**	**0.0000015**	**0.0000015**	**0.0000015**	**0.0000015**	**0.0000015**
Maximum Annual Total (tons/year)	**0.0000377**																							

Notes:

[a] The days per month are per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls', as presented on the 'Onsite Fugitive Dust' tab.

Table 5.1A.21R Onsite Demolition Fugitive Dust Emissions

Demolition Activity Levels for Demolition of Units 7&8 and 5&6

	Monthly Activity Levels																							
Source	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Debris Generated from Mechanical Dismemberment (tons) [a]	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034

[a] Debris generated from Table 5.14-1, Wastes Generated during Demolition Phase. Assumed 2/3 of waste from the demolition of Units 7&8 and 5&6. Only materials generated from demolition that may generate fugitive dust were included. Assumed demolition activities start in Month 29. The monthly quantities were determined as follows:

Scrap Materials	33,600	lbs/week	which equals	67.20	tons/month
Scrap Metals	21,000	tons	which equals	875.00	tons/month
Concrete	700	tons	which equals	29.17	tons/month
Asphalt	105	tons	which equals	4.38	tons/month
Asbestos Waste	1,400	tons	which equals	58.33	tons/month

The above calculations are based on the following assumptions:

Demolition will begin in Month 37 and last	24	months
The construction schedule allows for	4	weeks/month

Onsite Construction Vehicle Fugitive PM_{10} Emissions from Demolition of Units 7&8 and 5&6

	Fugitive PM_{10} Emissions (lbs/day) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	1.69	1.69	1.69	1.69	1.69	1.69	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Stake Truck	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	3.38	3.38	3.38	3.38	3.38	3.38	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Dump Truck	3.38	3.38	3.38	3.38	3.38	3.38	8.45	8.45	8.45	8.45	8.45	8.45	10.14	10.14	10.14	10.14	10.14	10.14	3.38	3.38	3.38	3.38	3.38	3.38
Onsite Total (lbs/day)	**6.76**	**6.76**	**6.76**	**6.76**	**6.76**	**6.76**	**13.52**	**13.52**	**13.52**	**13.52**	**13.52**	**13.52**	**16.91**	**16.91**	**16.91**	**16.91**	**16.91**	**16.91**	**6.76**	**6.76**	**6.76**	**6.76**	**6.76**	**6.76**
	Fugitive PM_{10} Emissions (lbs/month)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	38.88	38.88	38.88	38.88	38.88	38.88	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	77.76	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Stake Truck	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	77.76	77.76	77.76	77.76	77.76	77.76	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Dump Truck	77.76	77.76	77.76	77.76	77.76	77.76	194.41	194.41	194.41	194.41	194.41	194.41	233.29	233.29	233.29	233.29	233.29	233.29	77.76	77.76	77.76	77.76	77.76	77.76
Onsite Total (lbs/month)	**155.53**	**155.53**	**155.53**	**155.53**	**155.53**	**155.53**	**311.05**	**311.05**	**311.05**	**311.05**	**311.05**	**311.05**	**388.82**	**388.82**	**388.82**	**388.82**	**388.82**	**388.82**	**155.53**	**155.53**	**155.53**	**155.53**	**155.53**	**155.53**
Onsite Total (tons/year)	**2.10**																							

Notes:
[a] Emissions based on highest (controlled) unpaved road emission factor for PM_{10}.

Onsite Construction Vehicle Fugitive $PM_{2.5}$ Emissions from Demolition of Units 7&8 and 5&6

	Fugitive $PM_{2.5}$ Emissions (lbs/day) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Stake Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.34	0.34	0.34	0.34	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Dump Truck	0.34	0.34	0.34	0.34	0.34	0.34	0.85	0.85	0.85	0.85	0.85	0.85	1.01	1.01	1.01	1.01	1.01	1.01	0.34	0.34	0.34	0.34	0.34	0.34
Onsite Total (lbs/day)	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**1.35**	**1.35**	**1.35**	**1.35**	**1.35**	**1.35**	**1.69**	**1.69**	**1.69**	**1.69**	**1.69**	**1.69**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**
	Fugitive $PM_{2.5}$ Emissions (lbs/month)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Onsite Pick-up Truck	3.89	3.89	3.89	3.89	3.89	3.89	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Stake Truck	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	7.78	7.78	7.78	7.78	7.78	7.78	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Dump Truck	7.78	7.78	7.78	7.78	7.78	7.78	19.44	19.44	19.44	19.44	19.44	19.44	23.33	23.33	23.33	23.33	23.33	23.33	7.78	7.78	7.78	7.78	7.78	7.78
Onsite Total (lbs/month)	**15.55**	**15.55**	**15.55**	**15.55**	**15.55**	**15.55**	**31.11**	**31.11**	**31.11**	**31.11**	**31.11**	**31.11**	**38.88**	**38.88**	**38.88**	**38.88**	**38.88**	**38.88**	**15.55**	**15.55**	**15.55**	**15.55**	**15.55**	**15.55**
Onsite Total (tons/year)	**0.21**																							

Notes:
[a] Emissions based on highest (controlled) unpaved road emission factor for $PM_{2.5}$.

Onsite Demolition Fugitive PM_{10} Emissions from Demolition of Units 7&8 and 5&6

	Fugitive PM_{10} Emissions (lbs/day) [a]																							
Demolition Activity	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Dismemberment	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Debris Loading [b]	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Onsite Total (lbs/day)	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**	**0.62**
	Fugitive PM_{10} Emissions (lbs/month) [a]																							
Demolition Activity	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Dismemberment	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Debris Loading [b]	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43	13.43
Onsite Total (lbs/month)	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**	**14.16**
Onsite Total (tons/year)	**0.08**																							

Notes:
[a] Work days per month are as follows, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls' 23
[b] Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated

Table 5.1A.21R Onsite Demolition Fugitive Dust Emissions

Onsite Demolition Fugitive $PM_{2.5}$ Emissions from Demolition of Units 7&8 and 5&6

	Fugitive $PM_{2.5}$ Emissions (lbs/day) [a]																							
Demolition Activity	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Dismemberment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debris Loading [b]	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Onsite Total (lbs/day)	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**
	Fugitive $PM_{2.5}$ Emissions (lbs/month) [a]																							
Demolition Activity	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Dismemberment	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Debris Loading [b]	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03
Onsite Total (lbs/month)	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**	**2.14**
Onsite Total (tons/year)	**0.01**																							

Notes:
[a] Work days per month are as follows, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls' 23
[b] Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated

Onsite Construction Vehicle Activity for Demolition of Units 7&8 and 5&6

Vehicle Type	Miles/Day [a]	Working Days per Month [b]
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
[a] Estimated based on the dimensions of the project site.
[b] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'.

Fugitive Dust Emission Factors for Unpaved Roads

Vehicles on Unpaved Surfaces at Industrial Sites

Parameter	PM_{10}	$PM_{2.5}$
Mean Vehicle Weight [a]	16.5	16.5
Silt Content [a]	8.5	8.5
k [c]	1.5	0.15
a [c]	0.9	0.9
b [c]	0.45	0.45
P [d]	31	31
Emission Factor (Uncontrolled, lbs/mile) [e]	2.17	0.22
Reduction from Watering 3x per Day [f]	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
[a] Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons
[b] Silt content taken from Table 13.2.2-1 of Section 13.2.2 of *AP-42* (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
[c] k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of *AP-42* (EPA, 2006) for industrial roads.
[d] P taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin.
[e] Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of *AP-42* (EPA, 2006):
Emission Factor (lbs/mile) = {k (lbs/mile) x [Silt Content (%) / 12]^a x [Mean Vehicle Weight (tons) / 3]^b} x [(365 - P) / 365]
[f] Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Dismemberment

Dismemberment and Collapse of Structures

Parameter	PM_{10}	$PM_{2.5}$
k [a]	0.35	0.053
U (mph) [b]	4.9	4.9
M (%) [c]	2.0	2.0
Emission Factor (lbs/ton) [d]	0.00110	0.00017
Reduction from Watering Every 4 Hours [e]	36%	36%
Emission Factor (Controlled, lbs/ton)	0.00070	0.00011

Notes:
[a] k, the particle size multiplier, taken from Section 13.2.4.3 of *AP-42* (EPA, 2006) per Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
[b] U, the mean wind speed, taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin. Converted from meters/second (m/s) to miles per hour (mph).
[c] M, the material moisture content, taken from Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
[d] Emission factor calculated using the following equation from Section 13.2.4.3 of *AP-42* (EPA, 2006) per Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013):
Emission Factor (lbs/ton) = k x 0.0032 x [U / 5]$^{1.3}$ / [M / 2]$^{1.4}$
[e] Control efficiency taken from Table XI-A of the *CEQA Handbook* for Active Demolition and Debris Removal (SCAQMD, 2007).

Fugitive Dust Emission Factors for Debris Loading

Loading of Debris/Building Waste

Parameter	PM_{10}	$PM_{2.5}$
k [a]	0.35	0.053
$EF_{L\text{-}TSP}$ [b]	0.058	0.058
Emission Factor (lbs/ton) [c]	0.020	0.003
Reduction from Watering Every 4 Hours [d]	36%	36%
Emission Factor (Controlled, lbs/ton)	0.013	0.002

Notes:
[a] k taken from Section 13.2.4.3 of *AP-42* (EPA, 2006) per Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
[b] $EF_{L\text{-}TSP}$ taken from Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
[c] Emission factor calculated using the following equation from Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013):
Emission Factor (lbs/ton) = k x $EF_{L\text{-}TSP}$ (lbs/ton)
[d] Control efficiency taken from Table XI-A of the *CEQA Handbook* for Active Demolition and Debris Removal (SCAQMD, 2007).

Table 5.1A.22R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle Usage During Demolition of Units 7&8 and 5&6

Vehicle Type	Number per Day																							
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Offsite Delivery Trucks [a]	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
Material Hauling Trucks [b]	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
Waste Hauling Trucks [c]	10	10	10	10	10	10	12	12	16	16	20	20	24	24	24	24	24	24	16	16	16	12	10	10
Construction Worker Commute [d]	14	49	49	49	81	81	105	105	105	105	105	105	105	105	105	105	105	105	81	81	49	49	39	35

Notes:

[a] Offsite Delivery Trucks include trucks transporting "Consumables & Supplies", as provided in 'Redondo Beach Truck Deliveries 10.11.12.xls'

[b] Material Hauling Trucks include trucks transporting "Contractor Mobilization" and "Contractor Demobilization", as provided in 'Redondo Beach Truck Deliveries 10.11.12.xls

[c] Waste Hauling Trucks include trucks transporting "Mechanical Equipment", "Electrical Equip. & Mtrls", "Concrete/Rebar/Rubble", and "Steel/Architectural", as provided in 'Redondo Beach Truck Deliveries 10.11.12.xls

[d] Assumed 1 commute per 1 worker; number of workers taken from 'Manpower Schedule Redondo Beach 10.31.12.xls'

Offsite Vehicle CO Emissions from Demolition of Units 7&8 and 5&6

Vehicle Type	CO Emissions (lbs/day)																							
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Offsite Delivery Trucks	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.00
Material Hauling Trucks	0.13	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.13	0.13	0.13
Waste Hauling Trucks	1.05	1.05	1.05	1.05	1.05	1.05	1.26	1.26	1.68	1.68	2.09	2.09	2.51	2.51	2.51	2.51	2.51	2.51	1.68	1.68	1.68	1.26	1.05	1.05
Construction Worker Commute	1.05	3.66	3.66	3.66	6.05	6.05	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	6.05	6.05	3.66	3.66	2.91	2.62
Offsite Total (lbs/day)	**2.29**	**4.91**	**4.91**	**4.91**	**7.17**	**7.17**	**9.17**	**9.17**	**9.59**	**9.59**	**10.01**	**10.01**	**10.43**	**10.43**	**10.43**	**10.43**	**10.43**	**10.43**	**7.79**	**7.79**	**5.53**	**5.11**	**4.16**	**3.79**
Vehicle Type	**CO Emissions (lbs/month)**																							
	37	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	0.00
Material Hauling Trucks	3.01	3.01	3.01	3.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.01	3.01	3.01	3.01
Waste Hauling Trucks	24.08	24.08	24.08	24.08	24.08	24.08	28.90	28.90	38.53	38.53	48.17	48.17	57.80	57.80	57.80	57.80	57.80	57.80	38.53	38.53	38.53	28.90	24.08	24.08
Construction Worker Commute	24.06	84.23	84.23	84.23	139.23	139.23	180.49	180.49	180.49	180.49	180.49	180.49	180.49	180.49	180.49	180.49	180.49	180.49	139.23	139.23	84.23	84.23	67.04	60.16
Offsite Total (lbs/month)	**52.66**	**112.83**	**112.83**	**112.83**	**164.82**	**164.82**	**210.89**	**210.89**	**220.52**	**220.52**	**230.16**	**230.16**	**239.79**	**239.79**	**239.79**	**239.79**	**239.79**	**239.79**	**179.27**	**179.27**	**127.28**	**117.64**	**95.64**	**87.26**
Maximum Annual Total (tons/year)	**1.38**																							

Offsite Vehicle VOC Emissions from Demolition of Units 7&8 and 5&6

Vehicle Type	VOC Emissions (lbs/day)																							
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Offsite Delivery Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Material Hauling Trucks	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.03
Waste Hauling Trucks	0.23	0.23	0.23	0.23	0.23	0.23	0.28	0.28	0.37	0.37	0.47	0.47	0.56	0.56	0.56	0.56	0.56	0.56	0.37	0.37	0.37	0.28	0.23	0.23
Construction Worker Commute	0.02	0.06	0.06	0.06	0.11	0.11	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.11	0.11	0.06	0.06	0.05	0.05
Offsite Total (lbs/day)	**0.29**	**0.34**	**0.34**	**0.34**	**0.35**	**0.35**	**0.43**	**0.43**	**0.52**	**0.52**	**0.62**	**0.62**	**0.71**	**0.71**	**0.71**	**0.71**	**0.71**	**0.71**	**0.49**	**0.49**	**0.48**	**0.39**	**0.33**	**0.31**
Vehicle Type	**VOC Emissions (lbs/month)**																							
	37	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.00
Material Hauling Trucks	0.67	0.67	0.67	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67	0.67	0.67
Waste Hauling Trucks	5.35	5.35	5.35	5.35	5.35	5.35	6.42	6.42	8.56	8.56	10.70	10.70	12.84	12.84	12.84	12.84	12.84	12.84	8.56	8.56	8.56	6.42	5.35	5.35
Construction Worker Commute	0.42	1.47	1.47	1.47	2.44	2.44	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	2.44	2.44	1.47	1.47	1.17	1.05
Offsite Total (lbs/month)	**6.77**	**7.82**	**7.82**	**7.82**	**8.11**	**8.11**	**9.91**	**9.91**	**12.05**	**12.05**	**14.19**	**14.19**	**16.33**	**16.33**	**16.33**	**16.33**	**16.33**	**16.33**	**11.32**	**11.32**	**11.03**	**8.89**	**7.52**	**7.07**
Maximum Annual Total (tons/year)	**0.09**																							

Offsite Vehicle SOx Emissions from Demolition of Units 7&8 and 5&6

Vehicle Type	SOx Emissions (lbs/day)																							
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Offsite Delivery Trucks	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
Material Hauling Trucks	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002
Waste Hauling Trucks	0.019	0.019	0.019	0.019	0.019	0.019	0.023	0.023	0.030	0.030	0.038	0.038	0.046	0.046	0.046	0.046	0.046	0.046	0.030	0.030	0.030	0.023	0.019	0.019
Construction Worker Commute	0.004	0.013	0.013	0.013	0.021	0.021	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.021	0.021	0.013	0.013	0.010	0.009
Offsite Total (lbs/day)	**0.026**	**0.035**	**0.035**	**0.035**	**0.041**	**0.041**	**0.051**	**0.051**	**0.059**	**0.059**	**0.067**	**0.067**	**0.074**	**0.074**	**0.074**	**0.074**	**0.074**	**0.074**	**0.053**	**0.053**	**0.047**	**0.039**	**0.033**	**0.031**
Vehicle Type	**SOx Emissions (lbs/month)**																							
	37	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.000
Material Hauling Trucks	0.055	0.055	0.055	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.055	0.055	0.055
Waste Hauling Trucks	0.438	0.438	0.438	0.438	0.438	0.438	0.526	0.526	0.701	0.701	0.876	0.876	1.051	1.051	1.051	1.051	1.051	1.051	0.701	0.701	0.701	0.526	0.438	0.438
Construction Worker Commute	0.085	0.297	0.297	0.297	0.490	0.490	0.636	0.636	0.636	0.636	0.636	0.636	0.636	0.636	0.636	0.636	0.636	0.636	0.490	0.490	0.297	0.297	0.236	0.212
Offsite Total (lbs/month)	**0.601**	**0.812**	**0.812**	**0.812**	**0.951**	**0.951**	**1.184**	**1.184**	**1.360**	**1.360**	**1.535**	**1.535**	**1.710**	**1.710**	**1.710**	**1.710**	**1.710**	**1.710**	**1.214**	**1.214**	**1.075**	**0.900**	**0.752**	**0.705**
Maximum Annual Total (tons/year)	**0.009**																							

Table 5.1A.22R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle NOx Emissions from Demolition of Units 7&8 and 5&6

	NOx Emissions (lbs/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.00
Material Hauling Trucks	0.62	0.62	0.62	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.53	0.53	0.53
Waste Hauling Trucks	4.99	4.99	4.99	4.99	4.99	4.99	5.98	5.98	7.98	7.98	9.97	9.97	10.16	10.16	10.16	10.16	10.16	10.16	6.77	6.77	6.77	5.08	4.23	4.23
Construction Worker Commute	0.10	0.36	0.36	0.36	0.59	0.59	0.76	0.76	0.76	0.76	0.76	0.76	0.71	0.71	0.71	0.71	0.71	0.71	0.55	0.55	0.33	0.33	0.26	0.24
Offsite Total (lbs/day)	**6.00**	**6.26**	**6.26**	**6.26**	**5.86**	**5.86**	**7.04**	**7.04**	**9.03**	**9.03**	**11.03**	**11.03**	**11.12**	**11.12**	**11.12**	**11.12**	**11.12**	**11.12**	**7.58**	**7.58**	**7.89**	**6.20**	**5.28**	**5.00**
	NOx Emissions (lbs/month)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.66	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	0.00
Material Hauling Trucks	14.34	14.34	14.34	14.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.17	12.17	12.17	12.17
Waste Hauling Trucks	114.69	114.69	114.69	114.69	114.69	114.69	137.63	137.63	183.51	183.51	229.39	229.39	233.65	233.65	233.65	233.65	233.65	233.65	155.77	155.77	155.77	116.83	97.36	97.36
Construction Worker Commute	2.34	8.19	8.19	8.19	13.54	13.54	17.55	17.55	17.55	17.55	17.55	17.55	16.30	16.30	16.30	16.30	16.30	16.30	12.57	12.57	7.61	7.61	6.05	5.43
Offsite Total (lbs/month)	**138.03**	**143.88**	**143.88**	**143.88**	**134.89**	**134.89**	**161.84**	**161.84**	**207.72**	**207.72**	**253.60**	**253.60**	**255.85**	**255.85**	**255.85**	**255.85**	**255.85**	**255.85**	**174.24**	**174.24**	**181.44**	**142.50**	**121.48**	**114.96**
Maximum Annual Total (tons/year)	**1.40**																							

Offsite Vehicle PM_{10} Emissions from Demolition of Units 7&8 and 5&6

	PM_{10} Emissions (lbs/day) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00
Material Hauling Trucks	0.08	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.08	0.08
Waste Hauling Trucks	0.25	0.25	0.25	0.25	0.25	0.25	0.30	0.30	0.40	0.40	0.51	0.51	0.59	0.59	0.59	0.59	0.59	0.59	0.39	0.39	0.39	0.29	0.25	0.25
Construction Worker Commute	0.31	1.10	1.10	1.10	1.82	1.82	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	1.82	1.82	1.10	1.10	0.88	0.79
Offsite Total (lbs/day)	**0.68**	**1.47**	**1.47**	**1.47**	**2.10**	**2.10**	**2.69**	**2.69**	**2.79**	**2.79**	**2.89**	**2.89**	**2.98**	**2.98**	**2.98**	**2.98**	**2.98**	**2.98**	**2.24**	**2.24**	**1.61**	**1.51**	**1.23**	**1.12**
	PM_{10} Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.00
Material Hauling Trucks	1.95	1.95	1.95	1.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	1.92	1.92	1.92
Waste Hauling Trucks	5.81	5.81	5.81	5.81	5.81	5.81	6.97	6.97	9.30	9.30	11.62	11.62	13.53	13.53	13.53	13.53	13.53	13.53	9.02	9.02	9.02	6.76	5.64	5.64
Construction Worker Commute	7.24	25.34	25.34	25.34	41.89	41.89	54.31	54.31	54.31	54.31	54.31	54.31	54.30	54.30	54.30	54.30	54.30	54.30	41.89	41.89	25.34	25.34	20.17	18.10
Offsite Total (lbs/month)	**15.65**	**33.75**	**33.75**	**33.75**	**48.35**	**48.35**	**61.93**	**61.93**	**64.25**	**64.25**	**66.58**	**66.58**	**68.48**	**68.48**	**68.48**	**68.48**	**68.48**	**68.48**	**51.56**	**51.56**	**36.93**	**34.68**	**28.38**	**25.66**
Maximum Annual Total (tons/year)	**0.40**																							

Notes:
[a] PM_{10} Emissions include emissions from exhaust and paved roads.

Offsite Vehicle $PM_{2.5}$ Emissions from Demolition of Units 7&8 and 5&6

	$PM_{2.5}$ Emissions (lbs/day) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Material Hauling Trucks	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.03
Waste Hauling Trucks	0.14	0.14	0.14	0.14	0.14	0.14	0.17	0.17	0.23	0.23	0.29	0.29	0.33	0.33	0.33	0.33	0.33	0.33	0.22	0.22	0.22	0.16	0.14	0.14
Construction Worker Commute	0.09	0.30	0.30	0.30	0.50	0.50	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.50	0.50	0.30	0.30	0.24	0.21
Offsite Total (lbs/day)	**0.27**	**0.49**	**0.49**	**0.49**	**0.65**	**0.65**	**0.83**	**0.83**	**0.88**	**0.88**	**0.94**	**0.94**	**0.98**	**0.98**	**0.98**	**0.98**	**0.98**	**0.98**	**0.73**	**0.73**	**0.56**	**0.51**	**0.42**	**0.38**
	$PM_{2.5}$ Emissions (lbs/month) [a]																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.00
Material Hauling Trucks	0.72	0.72	0.72	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.70	0.70	0.70
Waste Hauling Trucks	3.31	3.31	3.31	3.31	3.31	3.31	3.97	3.97	5.30	5.30	6.62	6.62	7.56	7.56	7.56	7.56	7.56	7.56	5.04	5.04	5.04	3.78	3.15	3.15
Construction Worker Commute	1.97	6.90	6.90	6.90	11.41	11.41	14.79	14.79	14.79	14.79	14.79	14.79	14.78	14.78	14.78	14.78	14.78	14.78	11.40	11.40	6.90	6.90	5.49	4.93
Offsite Total (lbs/month)	**6.24**	**11.17**	**11.17**	**11.17**	**14.96**	**14.96**	**19.00**	**19.00**	**20.32**	**20.32**	**21.65**	**21.65**	**22.58**	**22.58**	**22.58**	**22.58**	**22.58**	**22.58**	**16.68**	**16.68**	**12.88**	**11.62**	**9.58**	**8.78**
Maximum Annual Total (tons/year)	**0.13**																							

Notes:
[a] $PM_{2.5}$ Emissions include emissions from exhaust and paved roads.

Offsite Vehicle CO_2 Emissions from Demolition of Units 7&8 and 5&6

	CO_2 Emissions (metric tons/day)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00
Material Hauling Trucks	0.11	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.11	0.11
Waste Hauling Trucks	0.90	0.90	0.90	0.90	0.90	0.90	1.08	1.08	1.44	1.44	1.80	1.80	2.16	2.16	2.16	2.16	2.16	2.16	1.44	1.44	1.44	1.08	0.90	0.90
Construction Worker Commute	0.18	0.62	0.62	0.62	1.02	1.02	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.02	1.02	0.62	0.62	0.49	0.44
Offsite Total (metric tons/day)	**1.24**	**1.68**	**1.68**	**1.68**	**1.97**	**1.97**	**2.45**	**2.45**	**2.81**	**2.81**	**3.17**	**3.17**	**3.53**	**3.53**	**3.53**	**3.53**	**3.53**	**3.53**	**2.51**	**2.51**	**2.22**	**1.86**	**1.55**	**1.45**
	CO_2 Emissions (metric tons/month)																							
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	0.00
Material Hauling Trucks	2.58	2.58	2.58	2.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58	2.58	2.58	2.58
Waste Hauling Trucks	20.66	20.66	20.66	20.66	20.66	20.66	24.79	24.79	33.06	33.06	41.32	41.32	49.58	49.58	49.58	49.58	49.58	49.58	33.06	33.06	33.06	24.79	20.66	20.66
Construction Worker Commute	4.06	14.20	14.20	14.20	23.48	23.48	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	30.43	23.48	23.48	14.20	14.20	11.30	10.14
Offsite Total (metric tons/month)	**28.46**	**38.60**	**38.60**	**38.60**	**45.30**	**45.30**	**56.38**	**56.38**	**64.65**	**64.65**	**72.91**	**72.91**	**81.18**	**81.18**	**81.18**	**81.18**	**81.18**	**81.18**	**57.69**	**57.69**	**51.00**	**42.74**	**35.71**	**33.39**
Maximum Annual Total (tons/year)	**877.56**																							

Table 5.1A.22R Offsite Motor Vehicle Exhaust and Fugitive Dust Emissions

Offsite Vehicle N_2O Emissions from Demolition of Units 7&8 and 5&6

	N_2O Emissions (metric tons/day)																						
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000000
Material Hauling Trucks	0.0000004	0.0000004	0.0000004	0.0000004	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000004	0.0000004	0.0000004	0.0000004
Waste Hauling Trucks	0.0000031	0.0000031	0.0000031	0.0000031	0.0000031	0.0000031	0.0000037	0.0000037	0.0000049	0.0000049	0.0000061	0.0000061	0.0000074	0.0000074	0.0000074	0.0000074	0.0000074	0.0000074	0.0000049	0.0000049	0.0000049	0.0000037	0.0000031	0.0000031
Construction Worker Commute	0.0000015	0.0000052	0.0000052	0.0000052	0.0000086	0.0000086	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000111	0.0000086	0.0000086	0.0000052	0.0000052	0.0000041	0.0000037
Offsite Total (metric tons/day)	**0.0000051**	**0.0000088**	**0.0000088**	**0.0000088**	**0.0000118**	**0.0000118**	**0.0000149**	**0.0000149**	**0.0000162**	**0.0000162**	**0.0000174**	**0.0000174**	**0.0000186**	**0.0000186**	**0.0000186**	**0.0000186**	**0.0000186**	**0.0000186**	**0.0000136**	**0.0000136**	**0.0000106**	**0.0000094**	**0.0000077**	**0.0000072**
	N_2O Emissions (metric tons/month)																						
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000000
Material Hauling Trucks	0.000009	0.000009	0.000009	0.000009	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000009	0.000009	0.000009	0.000009
Waste Hauling Trucks	0.000071	0.000071	0.000071	0.000071	0.000071	0.000071	0.000085	0.000085	0.000113	0.000113	0.000141	0.000141	0.000170	0.000170	0.000170	0.000170	0.000170	0.000170	0.000113	0.000113	0.000113	0.000085	0.000071	0.000071
Construction Worker Commute	0.000034	0.000119	0.000119	0.000119	0.000197	0.000197	0.000256	0.000256	0.000256	0.000256	0.000256	0.000256	0.000256	0.000256	0.000256	0.000256	0.000256	0.000256	0.000197	0.000197	0.000119	0.000119	0.000095	0.000085
Offsite Total (metric tons/month)	**0.000117**	**0.000202**	**0.000202**	**0.000202**	**0.000271**	**0.000271**	**0.000343**	**0.000343**	**0.000372**	**0.000372**	**0.000400**	**0.000400**	**0.000428**	**0.000428**	**0.000428**	**0.000428**	**0.000428**	**0.000428**	**0.000313**	**0.000313**	**0.000244**	**0.000216**	**0.000177**	**0.000165**
Maximum Annual Total (tons/year)	**0.004800**																							

Offsite Vehicle CH_4 Emissions from Demolition of Units 7&8 and 5&6

	CH_4 Emissions (metric tons/day)																						
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000001	0.0000000
Material Hauling Trucks	0.0000004	0.0000004	0.0000004	0.0000004	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000004	0.0000004	0.0000004	0.0000004
Waste Hauling Trucks	0.0000033	0.0000033	0.0000033	0.0000033	0.0000033	0.0000033	0.0000039	0.0000039	0.0000052	0.0000052	0.0000065	0.0000065	0.0000078	0.0000078	0.0000078	0.0000078	0.0000078	0.0000078	0.0000052	0.0000052	0.0000052	0.0000039	0.0000033	0.0000033
Construction Worker Commute	0.0000071	0.0000249	0.0000249	0.0000249	0.0000412	0.0000412	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000534	0.0000412	0.0000412	0.0000249	0.0000249	0.0000198	0.0000178
Offsite Total (metric tons/day)	**0.0000109**	**0.0000287**	**0.0000287**	**0.0000287**	**0.0000446**	**0.0000446**	**0.0000575**	**0.0000575**	**0.0000588**	**0.0000588**	**0.0000601**	**0.0000601**	**0.0000614**	**0.0000614**	**0.0000614**	**0.0000614**	**0.0000614**	**0.0000614**	**0.0000466**	**0.0000466**	**0.0000307**	**0.0000294**	**0.0000236**	**0.0000215**
	CH_4 Emissions (metric tons/month)																						
Vehicle Type	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
Offsite Delivery Trucks	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000000
Material Hauling Trucks	0.000009	0.000009	0.000009	0.000009	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000009	0.000009	0.000009	0.000009
Waste Hauling Trucks	0.000075	0.000075	0.000075	0.000075	0.000075	0.000075	0.000090	0.000090	0.000120	0.000120	0.000150	0.000150	0.000180	0.000180	0.000180	0.000180	0.000180	0.000180	0.000120	0.000120	0.000120	0.000090	0.000075	0.000075
Construction Worker Commute	0.000164	0.000573	0.000573	0.000573	0.000948	0.000948	0.001228	0.001228	0.001228	0.001228	0.001228	0.001228	0.001228	0.001228	0.001228	0.001228	0.001228	0.001228	0.000948	0.000948	0.000573	0.000573	0.000456	0.000409
Offsite Total (metric tons/month)	**0.000251**	**0.000661**	**0.000661**	**0.000661**	**0.001026**	**0.001026**	**0.001322**	**0.001322**	**0.001352**	**0.001352**	**0.001382**	**0.001382**	**0.001412**	**0.001412**	**0.001412**	**0.001412**	**0.001412**	**0.001412**	**0.001071**	**0.001071**	**0.000706**	**0.000676**	**0.000544**	**0.000494**
Maximum Annual Total (tons/year)	**0.016580**																							

Offsite Construction Vehicle Activity for Demolition of Units 7&8 and 5&6

Vehicle Type	**Roundtrip Miles/Day**	**Working Days per Month** [d]
Offsite Delivery Trucks [a]	13.8	23
Material Hauling Trucks [b]	40.0	23
Waste Hauling Trucks [c]	64.0	23
Construction Worker Commute [a]	29.4	23

Notes:

[a] Roundtrip miles/day taken for the South Coast Air Basin from Table 4.2 (Urban C-NW and H-W values) of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013)

[b] Roundtrip miles/day taken for from Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013)

[c] Roundtrip miles/day were assumed to travel directly to the Savage Canyon Landfill for offsite waste disposal.

[d] Per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'.

Table 5.1A.23R Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Demolition of Units 7&8 and 5&6

Emission Source	Pollutant(s)	Equation	Variables
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM_{10}, and $PM_{2.5}$	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)
			EF = Emission factor (g/bhp-hr)
			N = Number of pieces of equipment
			Hp = Average horsepower
			L = Average load factor
			H = Hours per month
			453.6 = Conversion from g to lbs
		$E_d = E_m / D$	E_d = Emissions (lbs/day)
			E_m = Emissions (lbs/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2{,}000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons
	CO_2	$E_m = N * FC * EF * H * 0.001$	E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
			FC = Fuel consumption (gallons/hour)
			EF = Emission factor (kg/gallon)
			H = Hours per month
			0.001 = Conversion from kg to metric tons
		$E_d = E_m / D$	E_d = Emissions (metric tons/day)
			E_m = Emissions (metric tons/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
	CH_4 and N_2O	$E_m = N * FC * EF * H / 1{,}000 * 0.001$	E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
			FC = Fuel consumption (gallons/hour)
			EF = Emission factor (g/gallon)
			H = Hours per month
			1,000 = Conversion from g to kg
			0.001 = Conversion from kg to metric tons
		$E_d = E_m / D$	E_d = Emissions (metric tons/day)
			E_m = Emissions (metric tons/month)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM_{10} and $PM_{2.5}$	CO, VOC, NOx, SOx, PM_{10}, and $PM_{2.5}$	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			EF = EMFAC2011 emission factor (g/mile). Paved and unpaved road fugitive PM_{10} and $PM_{2.5}$ emission factors calculated per Sections 13.2.1 and 13.2.2 of *AP-42* (EPA, 2011 and 2006),
			453.6 = Conversion from g to lbs
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2{,}000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons

Table 5.1A.23R Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Demolition of Units 7&8 and 5&6

Emission Source	Pollutant(s)	Equation	Variables
Onsite and Offsite Vehicle Exhaust	CO_2	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			FE = Fuel economy (mpg)
			EF = Emission factor (kg/gallon)
			0.001 = Conversion from kg to metric tons
		$E_m = E_d * D$	E_m = Emissions (metric tons/month)
			E_d = Emissions (metric tons/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
	CH_4 and N_2O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			EF = Emission factor (g/mile)
			1,000 = Conversion from g to kg
			0.001 = Conversion from kg to metric tons
		$E_m = E_d * D$	E_m = Emissions (metric tons/month)
			E_d = Emissions (metric tons/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m$	E_t = Emissions (metric tons/year)
			E_m = Emissions (metric tons/month)
Onsite Fugitive PM_{10} and $PM_{2.5}$ from Dismemberment and Debris Loading	PM_{10} and $PM_{2.5}$	$E_d = T * EF / D$	E_d = Emissions (lbs/day)
			T = Tons of material dismembered or loaded
			EF = Fugitive PM_{10} and $PM_{2.5}$ emission factors (lbs/ton), calculated per Section 13.2.4.3 of *AP-42* (EPA, 2006) for dismemberment and Section 4.4 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013) for debris loading.
			D = Number of construction days per month
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
		$E_t = \Sigma E_m / 2,000$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons

Table 5.1A.24R Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Demolition of Units 7&8 and 5&6

Onsite Equipment	Number per Month [a]																						
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Water Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Excavator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Cranes [b]	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3
Rubber Tired Loader [c]	3	3	3	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	3	3	3	3	3	3
Air Compressor	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	2	2	2	2	2	2
Forklift	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2	2	2

Notes:
[a] Vehicle counts taken from 'RBEP EQUIPMENT USAGE 10.11.12.xls'.
[b] Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane and the 35 Ton Hydraulic Crane.
[c] Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.

Number of Onsite Motor Vehicles for Demolition of Units 7&8 and 5&6

Vehicle Type	Number per Month [a]																						
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Onsite Pick-up Truck	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Onsite Stake Truck	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1
Onsite Dump Truck	4	4	4	4	4	4	10	10	10	10	10	10	12	12	12	12	12	12	4	4	4	4	4	4

Notes:
[a] Vehicle counts taken from 'RBEP EQUIPMENT USAGE 10.11.12.xls'.

Table 5.1A.25R Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Demolition of Units 7&8 and 5&6

Equipment [a]	Percent Usage [b]	Hours per Month [c]	Horsepower [d]	Load Factor [d]	Emission Factors (g/bhp-hr) [e]									Fuel Consumption 2019 (gallons/hour) [f]
					CO 2019	VOC 2019	NO_X 2019	NO_X 2020	SO_X 2019	PM_{10} 2019	PM_{10} 2020	$PM_{2.5}$ 2019	$PM_{2.5}$ 2020	
Water Truck [g]	50%	115	400	0.38	1.483	0.264	2.669	2.347	0.005	0.097	0.086	0.089	0.079	12.32
Excavator	85%	196	163	0.38	3.082	0.246	2.533	2.278	0.005	0.122	0.110	0.112	0.102	5.11
Cranes	65%	150	226	0.29	1.941	0.427	5.084	4.563	0.005	0.216	0.188	0.198	0.173	5.08
Rubber Tired Loader	55%	127	200	0.36	1.302	0.309	3.745	3.421	0.005	0.126	0.114	0.116	0.105	6.74
Air Compressor	80%	184	78	0.48	3.718	0.538	3.706	3.400	0.006	0.260	0.224	0.260	0.224	2.14
Forklift	75%	173	89	0.20	3.804	0.510	4.550	4.133	0.005	0.353	0.308	0.324	0.283	1.42

Notes:

[a] Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] Percent Usage assumed typical of power plant construction.

[c] Hours per month calculated based on the following schedule, per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls'

Work hours per day: 10

Work days per month: 23

[d] Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

[e] Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). Calendar year 2019 was used for CO, VOC, and SC_x. Calendar years 2019 and 2020 were used for NC_x, PM_{10}, and

[f] Fuel consumption based on consumption in the OFFROAD2007 model for the SCAB in the year 2019; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day

[g] Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks

Table 5.1A.26R Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Demolition of Units 7&8 and 5&6

Vehicle Type	Vehicle Class [a]	Exhaust Emission Factors (g/mile) [b]									Paved Road Emission Factors (g/mile) [c]		Fuel Economy
		CO 2019	VOC 2019	SO_X 2019	NO_X 2019	NO_X 2020	PM_{10} 2019	PM_{10} 2020	$PM_{2.5}$ 2019	$PM_{2.5}$ 2020	PM_{10}	$PM_{2.5}$	2019 (mpg) [d]
Onsite Pick-up Truck	Light-duty Truck	3.244	0.201	0.005	0.323	0.299	0.061	0.060	0.032	0.032	N/A	N/A	18.233
Onsite Stake Truck	Heavy-duty Diesel	6.164	3.120	0.016	15.730	14.065	0.207	0.194	0.137	0.125	N/A	N/A	5.589
Onsite Dump Truck	Heavy-duty Diesel	6.164	3.120	0.016	15.730	14.065	0.207	0.194	0.137	0.125	N/A	N/A	5.589
Offsite Delivery Trucks	Heavy-duty Diesel	1.075	0.232	0.016	4.756	4.213	0.163	0.163	0.097	0.096	0.300	0.075	5.589
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.742	0.165	0.014	3.534	3.000	0.179	0.174	0.102	0.097	0.300	0.075	7.275
Waste Hauling Trucks	Heavy/Medium-duty Diesel	0.742	0.165	0.014	3.534	3.000	0.179	0.174	0.102	0.097	0.000	0.000	7.275
Construction Worker Commu	Light-duty Auto/Truck	1.153	0.020	0.004	0.112	0.104	0.046	0.046	0.019	0.019	0.300	0.075	20.485

Notes:

[a] The vehicle classes are represented as follows:
Light-duty Truck: Assumed to be an average of LDT1, All and LDT2, All values.
Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2019 for CO, VOC, and SO_x. Calendar years 2019 and 2020 were used for NO_x, PM_{10}, and $PM_{2.5}$. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

[c] Paved road emission factors calculated using CalEEMod methodology, as described below.

[d] Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2019, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM_{10}	$PM_{2.5}$
Average Weight [a]	2.4	2.4
k [b]	1.0	0.25
sL [c]	0.1	0.1
Emission Factor (g/mile) [d]	0.300	0.075

Notes:

[a] Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

[b] k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).

[c] sL taken as the CalEEMod default for the Redondo Beach climate region of the South Coast Air Basin.

[d] Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):

$$\text{Emission Factor (g/mile)} = k \text{ (g/mile)} \times [sL \text{ (g/m}^2)]^{0.91} \times [\text{Average Weight (tons)}]^{1.02}$$

Table 5.1A.27R Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Demolition of Units 7&8 and 5&6

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO_2 Emission Factors			
Gasoline	8.78	kg CO_2/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO_2/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N_2O Emission Factors			
Gasoline Passenger Car Model Year 2010 [a]	0.0036	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 [a]	0.0066	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 [a]	0.0048	g N_2O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N_2O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH_4 Emission Factors			
Gasoline Passenger Car Model Year 2010 [a]	0.0173	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 [a]	0.0163	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 [a]	0.0051	g CH_4/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH_4/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

[a] Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Redondo Beach Energy Project
Construction Emission Estimates - Total Construction
December 2013

Table 5.1A.28R Onsite Construction Exhaust and Fugitive Emissions Summary

Onsite CO Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Demolition of Units 1-4																													
Total (lbs/month)	742	742	807	873	873	873	742	742	807	873	873	873																	
Total (lbs/day)	32.2	32.2	35.1	38.0	38.0	38.0	32.2	32.2	35.1	38.0	38.0	38.0																	
Power Block Construction																													
Total (lbs/month)															1,090	1,090	1,090	964	1,015	889	992	991	1,043	986	1,037	1,094	1,094	983	983
Total (lbs/day)															47.4	47.4	47.4	41.9	44.1	38.7	43.1	43.1	45.3	42.9	45.1	47.6	47.6	42.7	42.7
Demolition of Units 5&6 and 7&8																													
Total (lbs/month)																													
Total (lbs/day)																													
Total Onsite CO Emissions (Construction Equipment and Vehicles)																													
Pounds per Month	742	742	807	873	873	873	742	742	807	873	873	873	0	0	1,090	1,090	1,090	964	1,015	889	992	991	1,043	986	1,037	1,094	1,094	983	983
Pounds per Day	32.2	32.2	35.1	38.0	38.0	38.0	32.2	32.2	35.1	38.0	38.0	38.0	0.0	0.0	47.4	47.4	47.4	41.9	44.1	38.7	43.1	43.1	45.3	42.9	45.1	47.6	47.6	42.7	42.7
Yearly Maximums	9,819	9,077	8,335	8,618	8,836	9,054	9,145	9,418	9,566	9,750	9,869	10,039	10,152	11,189	12,283	12,287	12,179	12,071	12,090	11,835	11,707	11,293	10,914	10,484	10,077	10,115	10,096	10,120	10,255
Maximum Pounds per Day	48.60																												
Maximum Pounds per Hour	4.86																												
Maximum Pounds per Month	1,118																												
Month with Maximum	39 or 40																												
Maximum Pounds per Year	12,770																												
Maximum Average Pounds per Hour	1.46																												
Year with Maximum	Months 37-48																												
Tons per Year	6.39																												

Onsite VOC Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Demolition of Units 1-4																													
Total (lbs/month)	144	144	155	166	166	166	144	144	155	166	166	166																	
Total (lbs/day)	6.3	6.3	6.7	7.2	7.2	7.2	6.3	6.3	6.7	7.2	7.2	7.2																	
Power Block Construction																													
Total (lbs/month)															197	197	197	181	193	159	183	183	195	185	197	207	207	185	185
Total (lbs/day)															8.6	8.6	8.6	7.9	8.4	6.9	8.0	7.9	8.5	8.0	8.6	9.0	9.0	8.0	8.0
Demolition of Units 5&6 and 7&8																													
Total (lbs/month)																													
Total (lbs/day)																													
Total Onsite VOC Emissions (Construction Equipment and Vehicles)																													
Pounds per Month	144	144	155	166	166	166	144	144	155	166	166	166	0	0	197	197	197	181	193	159	183	183	195	185	197	207	207	185	185
Pounds per Day	6.3	6.3	6.7	7.2	7.2	7.2	6.3	6.3	6.7	7.2	7.2	7.2	0.0	0.0	8.6	8.6	8.6	7.9	8.4	6.9	8.0	7.9	8.5	8.0	8.6	9.0	9.0	8.0	8.0
Yearly Maximums	1,882	1,738	1,594	1,636	1,667	1,698	1,714	1,763	1,778	1,806	1,823	1,852	1,871	2,068	2,275	2,284	2,272	2,260	2,264	2,217	2,204	2,138	2,077	2,003	1,935	1,931	1,917	1,909	1,924
Maximum Pounds per Day	9.00																												
Maximum Pounds per Hour	0.90																												
Maximum Pounds per Month	207																												
Month with Maximum	26 or 27																												
Maximum Pounds per Year	2,284																												
Maximum Average Pounds per Hour	0.26																												
Year with Maximum	Months 16 - 27																												
Tons per Year	1.14																												

Onsite NOx Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Demolition of Units 1-4																													
Total (lbs/month)	1,554	1,554	1,637	1,721	1,721	1,721	1,554	1,554	1,637	1,721	1,721	1,721																	
Total (lbs/day)	67.6	67.6	71.2	74.8	74.8	74.8	67.6	67.6	71.2	74.8	74.8	74.8																	
Power Block Construction																													
Total (lbs/month)															2,067	2,067	2,067	1,907	2,051	1,665	1,953	1,951	2,095	2,028	1,873	1,935	1,935	1,743	1,743
Total (lbs/day)															89.9	89.9	89.9	82.9	89.2	72.4	84.9	84.8	91.1	88.2	81.4	84.1	84.1	75.8	75.8
Demolition of Units 5&6 and 7&8																													
Total (lbs/month)																													
Total (lbs/day)																													
Total Onsite NOx Emissions (Construction Equipment and Vehicles)																													
Pounds per Month	1,554	1,554	1,637	1,721	1,721	1,721	1,554	1,554	1,637	1,721	1,721	1,721	0	0	2,067	2,067	2,067	1,907	2,051	1,665	1,953	1,951	2,095	2,028	1,873	1,935	1,935	1,743	1,743
Pounds per Day	67.6	67.6	71.2	74.8	74.8	74.8	67.6	67.6	71.2	74.8	74.8	74.8	0.0	0.0	89.9	89.9	89.9	82.9	89.2	72.4	84.9	84.8	91.1	88.2	81.4	84.1	84.1	75.8	75.8
Yearly Maximums	19,816	18,262	16,708	17,138	17,484	17,830	18,016	18,513	18,625	18,940	19,170	19,544	19,851	21,725	23,659	23,527	23,203	22,878	22,714	22,034	21,739	20,843	19,993	18,999	18,028	17,974	17,858	17,790	17,915
Maximum Pounds per Day	91.08																												
Maximum Pounds per Hour	9.11																												
Maximum Pounds per Month	2,094.86																												
Month with Maximum	23																												
Maximum Pounds per Year	23,659																												
Maximum Average Pounds per Hour	2.70																												
Year with Maximum	Months 15 - 26																												
Tons per Year	11.83																												

Table 5.1A.28R Onsite Construction Exhaust and Fugitive Emissions Summary

Onsite SOx Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	SC
Demolition of Units 1-4																														
Total (lbs/month)	1.50	1.50	1.62	1.73	1.73	1.73	1.50	1.50	1.62	1.73	1.73	1.73																		
Total (lbs/day)	0.065	0.065	0.070	0.075	0.075	0.075	0.065	0.065	0.070	0.075	0.075	0.075																		
Power Block Construction																														
Total (lbs/month)															1.98	1.98	1.98	1.80	1.90	1.67	1.88	1.88	1.98	1.89	2.00	2.09	2.09	1.94	1.94	
Total (lbs/day)															0.086	0.086	0.086	0.078	0.083	0.072	0.082	0.082	0.086	0.082	0.087	0.091	0.091	0.085	0.085	
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite SOx Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**1.50**	**1.50**	**1.62**	**1.73**	**1.73**	**1.73**	**1.50**	**1.50**	**1.62**	**1.73**	**1.73**	**1.73**	**0.00**	**0.00**	**1.98**	**1.98**	**1.98**	**1.80**	**1.90**	**1.67**	**1.88**	**1.88**	**1.98**	**1.89**	**2.00**	**2.09**	**2.09**	**1.94**	**1.94**	
Pounds per Day	**0.07**	**0.07**	**0.07**	**0.08**	**0.08**	**0.08**	**0.07**	**0.07**	**0.07**	**0.08**	**0.08**	**0.08**	**0.00**	**0.00**	**0.09**	**0.09**	**0.09**	**0.08**	**0.08**	**0.07**	**0.08**	**0.08**	**0.09**	**0.08**	**0.09**	**0.09**	**0.09**	**0.08**	**0.08**	
Yearly Maximums	**19.61**	**18.11**	**16.61**	**16.97**	**17.22**	**17.47**	**17.54**	**17.94**	**18.10**	**18.36**	**18.51**	**18.76**	**18.92**	**20.92**	**23.01**	**23.11**	**23.08**	**23.05**	**23.19**	**22.85**	**22.74**	**22.06**	**21.43**	**20.70**	**20.01**	**20.40**	**20.70**	**21.05**	**21.54**	
Maximum Pounds per Day	**0.11**																													
Maximum Pounds per Hour*	**0.01**																													
Maximum Pounds per Month	**2.44**																													
Month with Maximum	**42**																													
Maximum Pounds per Year	**28**																													
Maximum Average Pounds per Hour**	**0.003**																													
Year with Maximum	**Months 37-48**																													
Tons per Year	**0.01**																													

Onsite Exhaust PM_{10} Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Exhaus
Demolition of Units 1-4																														
Total (lbs/month)	73.9	73.9	79.8	85.6	85.6	85.6	73.9	73.9	79.8	85.6	85.6	85.6																		
Total (lbs/day)	3.21	3.21	3.47	3.72	3.72	3.72	3.21	3.21	3.47	3.72	3.72	3.72																		
Power Block Construction																														
Total (lbs/month)															107.8	107.8	107.8	98.0	104.4	85.0	97.8	97.8	104.2	98.9	88.6	93.2	93.2	82.4	82.4	
Total (lbs/day)															4.69	4.69	4.69	4.26	4.54	3.70	4.25	4.25	4.53	4.30	3.85	4.05	4.05	3.58	3.58	
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite Exhaust PM_{10} Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**73.9**	**73.9**	**79.8**	**85.6**	**85.6**	**85.6**	**73.9**	**73.9**	**79.8**	**85.6**	**85.6**	**85.6**	**0.0**	**0.0**	**107.8**	**107.8**	**107.8**	**98.0**	**104.4**	**85.0**	**97.8**	**97.8**	**104.2**	**98.9**	**88.6**	**93.2**	**93.2**	**82.4**	**82.4**	
Pounds per Day	**3.21**	**3.21**	**3.47**	**3.72**	**3.72**	**3.72**	**3.21**	**3.21**	**3.47**	**3.72**	**3.72**	**3.72**	**0.00**	**0.00**	**4.69**	**4.69**	**4.69**	**4.26**	**4.54**	**3.70**	**4.25**	**4.25**	**4.53**	**4.30**	**3.85**	**4.05**	**4.05**	**3.58**	**3.58**	
Yearly Maximums	**969**	**895**	**821**	**849**	**871**	**893**	**906**	**936**	**947**	**965**	**978**	**996**	**1,010**	**1,098**	**1,191**	**1,177**	**1,151**	**1,126**	**1,111**	**1,071**	**1,051**	**1,004**	**960**	**909**	**861**	**855**	**843**	**836**	**839**	
Maximum Pounds per Day	**4.69**																													
Maximum Pounds per Hour*	**0.47**																													
Maximum Pounds per Month	**107.8**																													
Month with Maximum	**15, 16, or 17**																													
Maximum Pounds per Year	**1,191**																													
Maximum Average Pounds per Hour**	**0.14**																													
Year with Maximum	**Months 15-26**																													
Tons per Year	**0.60**																													

Onsite Fugitive PM_{10} Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Fugitiv
Demolition of Units 1-4																														
Total (lbs/month)	208	208	208	208	208	208	208	208	208	208	208	208																		
Total (lbs/day)	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05	9.05																		
Power Block Construction																														
Total (lbs/month)															408	408	408	408	408	301	301	263	263	263	263	263	263	263	263	
Total (lbs/day)															17.73	17.73	17.73	17.73	17.73	13.11	13.11	11.42	11.42	11.42	11.42	11.42	11.42	11.42	11.42	
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite Fugitive PM_{10} Emissions (Dismemberment, Debris Loading, Grading, Bulldozing, and Onsite Construction Vehicles)																														
Pounds per Month	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**0**	**0**	**408**	**408**	**408**	**408**	**408**	**301**	**301**	**263**	**263**	**263**	**263**	**263**	**263**	**263**	**263**	
Pounds per Day	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**0.00**	**0.00**	**17.73**	**17.73**	**17.73**	**17.73**	**17.73**	**13.11**	**13.11**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	
Yearly Maximums	**2,497**	**2,289**	**2,081**	**2,281**	**2,481**	**2,680**	**2,880**	**3,080**	**3,173**	**3,266**	**3,321**	**3,375**	**3,430**	**3,692**	**3,955**	**3,810**	**3,664**	**3,519**	**3,374**	**3,229**	**3,170**	**3,044**	**2,956**	**2,869**	**2,781**	**2,785**	**2,790**	**2,794**	**2,798**	
Maximum Pounds per Day	**17.73**																													
Maximum Pounds per Hour*	**1.77**																													
Maximum Pounds per Month	**408**																													
Month with Maximum	**15, 16, 17, 18, or 19**																													
Maximum Pounds per Year	**4,719**																													
Maximum Average Pounds per Hour**	**0.54**																													
Year with Maximum	**Months 43 - 54**																													
Tons per Year	**2.36**																													

Total Onsite PM_{10} Emissions (Exhaust and Fugitive)

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total
Pounds per Month	**282**	**282**	**288**	**294**	**294**	**294**	**282**	**282**	**288**	**294**	**294**	**294**	**0**	**0**	**516**	**516**	**516**	**506**	**512**	**386**	**399**	**360**	**367**	**361**	**351**	**356**	**356**	**345**	**345**	
Pounds per Day	**12.26**	**12.26**	**12.52**	**12.77**	**12.77**	**12.77**	**12.26**	**12.26**	**12.52**	**12.77**	**12.77**	**12.77**	**0.00**	**0.00**	**22.42**	**22.42**	**22.42**	**21.99**	**22.27**	**16.80**	**17.36**	**15.67**	**15.95**	**15.72**	**15.27**	**15.47**	**15.47**	**15.00**	**15.00**	
Yearly Maximums	**3,466**	**3,184**	**2,902**	**3,130**	**3,352**	**3,574**	**3,786**	**4,016**	**4,120**	**4,232**	**4,299**	**4,372**	**4,439**	**4,791**	**5,146**	**4,986**	**4,816**	**4,645**	**4,484**	**4,300**	**4,221**	**4,047**	**3,916**	**3,778**	**3,642**	**3,640**	**3,633**	**3,630**	**3,637**	
Maximum Pounds per Day	**22.42**																													
Maximum Pounds per Hour*	**2.24**																													
Maximum Pounds per Month	**516**																													
Month with Maximum	**15, 16, or 17**																													
Maximum Pounds per Year	**5,587**																													
Maximum Average Pounds per Hour**	**0.64**																													
Year with Maximum	**Months 43 - 54**																													
Tons per Year	**2.79**																													

Table 5.1A.28R Onsite Construction Exhaust and Fugitive Emissions Summary

Onsite Exhaust $PM_{2.5}$ Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Exhaus
Demolition of Units 1-4																														
Total (lbs/month)	68.9	68.9	74.8	80.6	80.6	80.6	68.9	68.9	74.8	80.6	80.6	80.6																		
Total (lbs/day)	3.00	3.00	3.25	3.51	3.51	3.51	3.00	3.00	3.25	3.51	3.51	3.51																		
Power Block Construction																														
Total (lbs/month)															100.0	100.0	100.0	90.9	96.8	79.0	90.8	90.8	96.7	91.4	81.9	86.5	86.5	76.5	76.5	
Total (lbs/day)															4.35	4.35	4.35	3.95	4.21	3.44	3.95	3.95	4.21	3.97	3.56	3.76	3.76	3.33	3.33	
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite Exhaust $PM_{2.5}$ Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**68.9**	**68.9**	**74.8**	**80.6**	**80.6**	**80.6**	**68.9**	**68.9**	**74.8**	**80.6**	**80.6**	**80.6**	**0.0**	**0.0**	**100.0**	**100.0**	**100.0**	**90.9**	**96.8**	**79.0**	**90.8**	**90.8**	**96.7**	**91.4**	**81.9**	**86.5**	**86.5**	**76.5**	**76.5**	
Pounds per Day	**3.00**	**3.00**	**3.25**	**3.51**	**3.51**	**3.51**	**3.00**	**3.00**	**3.25**	**3.51**	**3.51**	**3.51**	**0.00**	**0.00**	**4.35**	**4.35**	**4.35**	**3.95**	**4.21**	**3.44**	**3.95**	**3.95**	**4.21**	**3.97**	**3.56**	**3.76**	**3.76**	**3.33**	**3.33**	
Yearly Maximums	**909**	**840**	**771**	**796**	**816**	**835**	**845**	**873**	**883**	**900**	**910**	**926**	**937**	**1,019**	**1,105**	**1,091**	**1,068**	**1,045**	**1,030**	**994**	**975**	**932**	**891**	**845**	**801**	**795**	**785**	**778**	**781**	
Maximum Pounds per Day	**4.35**																													
Maximum Pounds per Hour[a]	**0.43**																													
Maximum Pounds per Month	**100.0**																													
Month with Maximum	**15, 16, or 17**																													
Maximum Pounds per Year	**1,105**																													
Maximum Average Pounds per Hour[b]	**0.13**																													
Year with Maximum	**Months 15-26**																													
Tons per Year	**0.55**																													

Onsite Fugitive $PM_{2.5}$ Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Fugitiv
Demolition of Units 1-4																														
Total (lbs/month)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5																		
Total (lbs/day)	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94																		
Power Block Construction																														
Total (lbs/month)															101.5	101.5	101.5	101.5	101.5	60.5	60.5	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	
Total (lbs/day)															4.41	4.41	4.41	4.41	4.41	2.63	2.63	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite Fugitive $PM_{2.5}$ Emissions (Dismemberment, Debris Loading, Grading, Bulldozing, and Onsite Construction Vehicles)																														
Pounds per Month	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**0**	**0**	**102**	**102**	**102**	**102**	**102**	**61**	**61**	**57**	**57**	**57**	**57**	**57**	**57**	**57**	**57**	
Pounds per Day	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.00**	**0.00**	**4.41**	**4.41**	**4.41**	**4.41**	**4.41**	**2.63**	**2.63**	**2.46**	**2.46**	**2.46**	**2.46**	**2.46**	**2.46**	**2.46**	**2.46**	
Yearly Maximums	**258**	**237**	**215**	**295**	**375**	**455**	**535**	**615**	**654**	**693**	**728**	**763**	**798**	**855**	**912**	**867**	**822**	**777**	**732**	**687**	**681**	**638**	**599**	**560**	**521**	**492**	**463**	**433**	**404**	
Maximum Pounds per Day	**4.41**																													
Maximum Pounds per Hour[a]	**0.44**																													
Maximum Pounds per Month	**102**																													
Month with Maximum	**15, 16, 17, 18, or 19**																													
Maximum Pounds per Year	**912**																													
Maximum Average Pounds per Hour[b]	**0.10**																													
Year with Maximum	**Months 15-26**																													
Tons per Year	**0.46**																													

Total Onsite $PM_{2.5}$ Emissions (Exhaust and Fugitive)

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total
Pounds per Month	**90**	**90**	**96**	**102**	**102**	**102**	**90**	**90**	**96**	**102**	**102**	**102**	**0**	**0**	**202**	**202**	**202**	**192**	**198**	**140**	**151**	**147**	**153**	**148**	**138**	**143**	**143**	**133**	**133**	
Pounds per Day	**3.93**	**3.93**	**4.19**	**4.44**	**4.44**	**4.44**	**3.93**	**3.93**	**4.19**	**4.44**	**4.44**	**4.44**	**0.00**	**0.00**	**8.76**	**8.76**	**8.76**	**8.37**	**8.62**	**6.07**	**6.58**	**6.41**	**6.67**	**6.44**	**6.02**	**6.22**	**6.22**	**5.79**	**5.79**	
Yearly Maximums	**1,167**	**1,077**	**986**	**1,092**	**1,191**	**1,290**	**1,381**	**1,489**	**1,538**	**1,593**	**1,638**	**1,689**	**1,735**	**1,874**	**2,017**	**1,958**	**1,890**	**1,822**	**1,762**	**1,681**	**1,656**	**1,570**	**1,490**	**1,405**	**1,322**	**1,287**	**1,248**	**1,212**	**1,186**	
Maximum Pounds per Day	**8.76**																													
Maximum Pounds per Hour[a]	**0.876**																													
Maximum Pounds per Month	**202**																													
Month with Maximum	**15, 16, or 17**																													
Maximum Pounds per Year	**2,017**																													
Maximum Average Pounds per Hour[b]	**0.230**																													
Year with Maximum	**Months 15-26**																													
Tons per Year	**1.01**																													

Table 5.1A.28R Onsite Construction Exhaust and Fugitive Emissions Summary

Onsite CO_2 Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Demolition of Units 1-4																													
Total (lbs/month)	112	112	117	122	122	122	112	112	117	122	122	122																	
Total (lbs/day)	4.88	4.88	5.10	5.32	5.32	5.32	4.88	4.88	5.10	5.32	5.32	5.32																	
Power Block Construction																													
Total (lbs/month)															148.0	148.0	148.0	133.1	140.9	122.4	137.9	137.8	145.6	141.6	149.3	153.4	153.4	142.7	142.7
Total (lbs/day)															6.43	6.43	6.43	5.79	6.12	5.32	6.00	5.99	6.33	6.16	6.49	6.67	6.67	6.21	6.21
Demolition of Units 5&6 and 7&8																													
Total (lbs/month)																													
Total (lbs/day)																													
Total Onsite CO_2 Emissions (Construction Equipment and Vehicles)																													
Metric Tons per Month	**112.2**	**112.2**	**117.3**	**122.3**	**122.3**	**122.3**	**112.2**	**112.2**	**117.3**	**122.3**	**122.3**	**122.3**	**0.0**	**0.0**	**148.0**	**148.0**	**148.0**	**133.1**	**140.9**	**122.4**	**137.9**	**137.8**	**145.6**	**141.6**	**149.3**	**153.4**	**153.4**	**142.7**	**142.7**
Metric Tons per Day	**4.88**	**4.88**	**5.10**	**5.32**	**5.32**	**5.32**	**4.88**	**4.88**	**5.10**	**5.32**	**5.32**	**5.32**	**0.00**	**0.00**	**6.43**	**6.43**	**6.43**	**5.79**	**6.12**	**5.32**	**6.00**	**5.99**	**6.33**	**6.16**	**6.49**	**6.67**	**6.67**	**6.21**	**6.21**
Yearly Maximums	**1,417**	**1,305**	**1,193**	**1,223**	**1,249**	**1,275**	**1,286**	**1,314**	**1,324**	**1,345**	**1,361**	**1,384**	**1,403**	**1,553**	**1,706**	**1,711**	**1,706**	**1,701**	**1,710**	**1,683**	**1,674**	**1,621**	**1,572**	**1,515**	**1,458**	**1,485**	**1,508**	**1,535**	**1,573**

Maximum Metric Tons per Day	**7.85**
Maximum Metric Tons per Hour[a]	**0.79**
Maximum Metric Tons per Month	**180.7**
Month with Maximum	**42**
Maximum Metric Tons per Year	**2,079**
Maximum Average Metric Tons per Hour[b]	**0.24**
Year with Maximum	**Months 37-48**

Onsite N_2O Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Demolition of Units 1-4																													
Total (lbs/month)	0.0029	0.0029	0.0030	0.0031	0.0031	0.0031	0.0029	0.0029	0.0030	0.0031	0.0031	0.0031																	
Total (lbs/day)	0.00012	0.00012	0.00013	0.00014	0.00014	0.00014	0.00012	0.00012	0.00013	0.00014	0.00014	0.00014																	
Power Block Construction																													
Total (lbs/month)															0.00376	0.00376	0.00376	0.00338	0.00358	0.00311	0.00350	0.00350	0.00370	0.00360	0.00380	0.00390	0.00390	0.00363	0.00363
Total (lbs/day)															0.00016	0.00016	0.00016	0.00015	0.00016	0.00014	0.00015	0.00015	0.00016	0.00016	0.00017	0.00017	0.00017	0.00016	0.00016
Demolition of Units 5&6 and 7&8																													
Total (lbs/month)																													
Total (lbs/day)																													
Total Onsite N_2O Emissions (Construction Equipment and Vehicles)																													
Metric Tons per Month	**0.00285**	**0.00285**	**0.00298**	**0.00311**	**0.00311**	**0.00311**	**0.00285**	**0.00285**	**0.00298**	**0.00311**	**0.00311**	**0.00311**	**0.00000**	**0.00000**	**0.00376**	**0.00376**	**0.00376**	**0.00338**	**0.00358**	**0.00311**	**0.00350**	**0.00350**	**0.00370**	**0.00360**	**0.00380**	**0.00390**	**0.00390**	**0.00363**	**0.00363**
Metric Tons per Day	**0.00012**	**0.00012**	**0.00013**	**0.00014**	**0.00014**	**0.00014**	**0.00012**	**0.00012**	**0.00013**	**0.00014**	**0.00014**	**0.00014**	**0.00000**	**0.00000**	**0.00016**	**0.00016**	**0.00016**	**0.00015**	**0.00016**	**0.00014**	**0.00015**	**0.00015**	**0.00016**	**0.00016**	**0.00017**	**0.00017**	**0.00017**	**0.00016**	**0.00016**
Yearly Maximums	**0.0360**	**0.0331**	**0.0303**	**0.0311**	**0.0317**	**0.0324**	**0.0327**	**0.0334**	**0.0336**	**0.0342**	**0.0346**	**0.0352**	**0.0356**	**0.0394**	**0.0433**	**0.0435**	**0.0434**	**0.0432**	**0.0435**	**0.0428**	**0.0425**	**0.0412**	**0.0400**	**0.0385**	**0.0371**	**0.0377**	**0.0383**	**0.0390**	**0.0400**

Maximum Metric Tons per Day	**0.00020**
Maximum Metric Tons per Hour[a]	**0.00002**
Maximum Metric Tons per Month	**0.0046**
Month with Maximum	**42**
Maximum Metric Tons per Year	**0.05**
Maximum Average Metric Tons per Hour[b]	**0.000006**
Year with Maximum	**Months 37-48**

Onsite CH_4 Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Demolition of Units 1-4																													
Total (lbs/month)	0.0064	0.0064	0.0066	0.0069	0.0069	0.0069	0.0064	0.0064	0.0066	0.0069	0.0069	0.0069																	
Total (lbs/day)	0.00028	0.00028	0.00029	0.00030	0.00030	0.00030	0.00028	0.00028	0.00029	0.00030	0.00030	0.00030																	
Power Block Construction																													
Total (lbs/month)															0.00838	0.00838	0.00838	0.00754	0.00798	0.00694	0.00782	0.00782	0.00826	0.00803	0.00847	0.00870	0.00870	0.00809	0.00809
Total (lbs/day)															0.00036	0.00036	0.00036	0.00033	0.00035	0.00030	0.00034	0.00034	0.00036	0.00035	0.00037	0.00038	0.00038	0.00035	0.00035
Demolition of Units 5&6 and 7&8																													
Total (lbs/month)																													
Total (lbs/day)																													
Total Onsite CH_4 Emissions (Construction Equipment and Vehicles)																													
Metric Tons per Month	**0.00636**	**0.00636**	**0.00664**	**0.00693**	**0.00693**	**0.00693**	**0.00636**	**0.00636**	**0.00664**	**0.00693**	**0.00693**	**0.00693**	**0.00000**	**0.00000**	**0.00838**	**0.00838**	**0.00838**	**0.00754**	**0.00798**	**0.00694**	**0.00782**	**0.00782**	**0.00826**	**0.00803**	**0.00847**	**0.00870**	**0.00870**	**0.00809**	**0.00809**
Metric Tons per Day	**0.00028**	**0.00028**	**0.00029**	**0.00030**	**0.00030**	**0.00030**	**0.00028**	**0.00028**	**0.00029**	**0.00030**	**0.00030**	**0.00030**	**0.00000**	**0.00000**	**0.00036**	**0.00036**	**0.00036**	**0.00033**	**0.00035**	**0.00030**	**0.00034**	**0.00034**	**0.00036**	**0.00035**	**0.00037**	**0.00038**	**0.00038**	**0.00035**	**0.00035**
Yearly Maximums	**0.0803**	**0.0739**	**0.0676**	**0.0693**	**0.0708**	**0.0722**	**0.0728**	**0.0744**	**0.0750**	**0.0762**	**0.0771**	**0.0784**	**0.0795**	**0.0880**	**0.0967**	**0.0970**	**0.0967**	**0.0964**	**0.0970**	**0.0954**	**0.0949**	**0.0919**	**0.0891**	**0.0859**	**0.0827**	**0.0842**	**0.0855**	**0.0870**	**0.0892**

Maximum Metric Tons per Day	**0.00045**
Maximum Metric Tons per Hour[a]	**0.00004**
Maximum Metric Tons per Month	**0.010**
Month with Maximum	**42**
Maximum Metric Tons per Year	**0.118**
Maximum Average Metric Tons per Hour[b]	**0.000013**
Year with Maximum	**Months 37-48**

Notes:

[a] The hours per day are per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 10 hours/day

[b] The hours per year are assumed to allow operation 24 hours per day, 7 days per week despite the actual construction schedule per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 8,760 hours/year

Table 5.1A.28R Onsite Construction Exhaust and I

Onsite CO Emissions

Construction Step	CO Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	983	761	760	578	613	613	578	426	426	468	468	387	387	217	217	217	217	217	217												
Total (lbs/day)	42.7	33.1	33.1	25.1	26.7	26.7	25.1	18.5	18.5	20.4	20.4	16.8	16.8	9.4	9.4	9.4	9.4	9.4	9.4												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								650	650	650	650	650	692	828	828	828	828	828	828	912	912	912	912	912	912	650	650	650	650	650	650
Total (lbs/day)								28.2	28.2	28.2	28.2	28.2	30.1	36.0	36.0	36.0	36.0	36.0	36.0	39.6	39.6	39.6	39.6	39.6	39.6	28.2	28.2	28.2	28.2	28.2	28.2
Total Onsite CO Emissions (Construction Equipment and Vehicles)																															
Pounds per Month	**983**	**761**	**760**	**578**	**613**	**613**	**578**	**1,075**	**1,075**	**1,118**	**1,118**	**1,037**	**1,079**	**1,045**	**1,045**	**1,045**	**1,045**	**1,045**	**1,045**	**912**	**912**	**912**	**912**	**912**	**912**	**650**	**650**	**650**	**650**	**650**	**650**
Pounds per Day	**42.7**	**33.1**	**33.1**	**25.1**	**26.7**	**26.7**	**25.1**	**46.8**	**46.8**	**48.6**	**48.6**	**45.1**	**46.9**	**45.4**	**45.4**	**45.4**	**45.4**	**45.4**	**45.4**	**39.6**	**39.6**	**39.6**	**39.6**	**39.6**	**39.6**	**28.2**	**28.2**	**28.2**	**28.2**	**28.2**	**28.2**
Yearly Maximums	**10,309**	**10,406**	**10,690**	**10,974**	**11,441**	**11,872**	**12,304**	**12,770**	**12,607**	**12,443**	**12,237**	**12,031**	**11,906**	**11,739**	**11,344**	**10,949**	**10,554**	**10,159**	**9,764**	**9,369**											
Maximum Pounds per Day																															
Maximum Pounds per Hour																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour																															
Year with Maximum																															
Tons per Year																															

Onsite VOC Emissions

Construction Step	VOC Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	185	146	146	116	122	122	116	89	89	96	96	84	84	47	47	47	47	47	47												
Total (lbs/day)	8.0	6.4	6.4	5.1	5.3	5.3	5.1	3.9	3.9	4.2	4.2	3.6	3.6	2.0	2.0	2.0	2.0	2.0	2.0												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								104	104	104	104	104	113	135	135	135	135	135	135	150	150	150	150	150	150	104	104	104	104	104	104
Total (lbs/day)								4.5	4.5	4.5	4.5	4.5	4.9	5.9	5.9	5.9	5.9	5.9	5.9	6.5	6.5	6.5	6.5	6.5	6.5	4.5	4.5	4.5	4.5	4.5	4.5
Total Onsite VOC Emissions (Construction Equipment and Vehicles)																															
Pounds per Month	**185**	**146**	**146**	**116**	**122**	**122**	**116**	**193**	**193**	**200**	**200**	**188**	**197**	**182**	**182**	**182**	**182**	**182**	**182**	**150**	**150**	**150**	**150**	**150**	**150**	**104**	**104**	**104**	**104**	**104**	**104**
Pounds per Day	**8.0**	**6.4**	**6.4**	**5.1**	**5.3**	**5.3**	**5.1**	**8.4**	**8.4**	**8.7**	**8.7**	**8.2**	**8.6**	**7.9**	**7.9**	**7.9**	**7.9**	**7.9**	**7.9**	**6.5**	**6.5**	**6.5**	**6.5**	**6.5**	**6.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**
Yearly Maximums	**1,927**	**1,938**	**1,974**	**2,010**	**2,076**	**2,137**	**2,197**	**2,263**	**2,221**	**2,179**	**2,129**	**2,080**	**2,043**	**1,997**	**1,918**	**1,840**	**1,761**	**1,683**	**1,605**	**1,526**											
Maximum Pounds per Day																															
Maximum Pounds per Hour																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour																															
Year with Maximum																															
Tons per Year																															

Onsite NOx Emissions

Construction Step	NOx Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	1,743	1,372	1,371	1,057	1,101	1,101	1,057	744	744	792	792	707	707	384	384	384	384	384	384												
Total (lbs/day)	75.8	59.6	59.6	46.0	47.9	47.9	46.0	32.4	32.4	34.4	34.4	30.7	30.7	16.7	16.7	16.7	16.7	16.7	16.7												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								1,075	1,075	1,075	1,075	1,075	1,185	1,383	1,383	1,383	1,383	1,383	1,383	1,370	1,370	1,370	1,370	1,370	1,370	968	968	968	968	968	968
Total (lbs/day)								46.7	46.7	46.7	46.7	46.7	51.5	60.1	60.1	60.1	60.1	60.1	60.1	59.6	59.6	59.6	59.6	59.6	59.6	42.1	42.1	42.1	42.1	42.1	42.1
Total Onsite NOx Emissions (Construction Equipment and Vehicles)																															
Pounds per Month	**1,743**	**1,372**	**1,371**	**1,057**	**1,101**	**1,101**	**1,057**	**1,819**	**1,819**	**1,867**	**1,867**	**1,782**	**1,892**	**1,767**	**1,767**	**1,767**	**1,767**	**1,767**	**1,767**	**1,370**	**1,370**	**1,370**	**1,370**	**1,370**	**1,370**	**968**	**968**	**968**	**968**	**968**	**968**
Pounds per Day	**75.8**	**59.6**	**59.6**	**46.0**	**47.9**	**47.9**	**46.0**	**79.1**	**79.1**	**81.2**	**81.2**	**77.5**	**82.2**	**76.8**	**76.8**	**76.8**	**76.8**	**76.8**	**76.8**	**59.6**	**59.6**	**59.6**	**59.6**	**59.6**	**59.6**	**42.1**	**42.1**	**42.1**	**42.1**	**42.1**	**42.1**
Yearly Maximums	**17,954**	**18,103**	**18,498**	**18,895**	**19,604**	**20,271**	**20,937**	**21,647**	**21,198**	**20,749**	**20,252**	**19,756**	**19,344**	**18,823**	**18,024**	**17,225**	**16,426**	**15,626**	**14,827**	**14,028**											
Maximum Pounds per Day																															
Maximum Pounds per Hour																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour																															
Year with Maximum																															
Tons per Year																															

Table 5.1A.28R Onsite Construction Exhaust and I

Onsite SOx Emissions

Construction Step	Sox Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	1.94	1.56	1.56	1.20	1.25	1.25	1.20	0.89	0.89	0.94	0.94	0.84	0.84	0.43	0.43	0.43	0.43	0.43	0.43												
Total (lbs/day)	0.085	0.068	0.068	0.052	0.054	0.054	0.052	0.038	0.038	0.041	0.041	0.036	0.036	0.019	0.019	0.019	0.019	0.019	0.019												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								1.50	1.50	1.50	1.50	1.50	1.61	1.87	1.87	1.87	1.87	1.87	1.87	2.06	2.06	2.06	2.06	2.06	2.06	1.50	1.50	1.50	1.50	1.50	1.50
Total (lbs/day)								0.065	0.065	0.065	0.065	0.065	0.070	0.081	0.081	0.081	0.081	0.081	0.081	0.089	0.089	0.089	0.089	0.089	0.089	0.065	0.065	0.065	0.065	0.065	0.065
Total Onsite SOx Emissions (Construction Equipment and Vehicles)																															
Pounds per Month	**1.94**	**1.56**	**1.56**	**1.20**	**1.25**	**1.25**	**1.20**	**2.39**	**2.39**	**2.44**	**2.44**	**2.34**	**2.44**	**2.30**	**2.30**	**2.30**	**2.30**	**2.30**	**2.30**	**2.06**	**2.06**	**2.06**	**2.06**	**2.06**	**2.06**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**
Pounds per Day	**0.08**	**0.07**	**0.07**	**0.05**	**0.05**	**0.05**	**0.05**	**0.10**	**0.10**	**0.11**	**0.11**	**0.10**	**0.11**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**
Yearly Maximums	**21.93**	**22.43**	**23.17**	**23.92**	**25.01**	**26.07**	**27.12**	**28.22**	**27.89**	**27.56**	**27.18**	**26.80**	**26.52**	**26.14**	**25.34**	**24.54**	**23.74**	**22.94**	**22.14**	**21.34**											
Maximum Pounds per Day																															
Maximum Pounds per Hour*																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour																															
Year with Maximum																															
Tons per Year																															

Onsite Exhaust PM_{10} Emissions

Construction Step	st PM_{10} Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	82.4	64.8	64.8	50.8	53.8	53.8	50.8	33.7	33.7	37.4	37.4	31.3	31.3	18.2	18.2	18.2	18.2	18.2	18.2												
Total (lbs/day)	3.58	2.82	2.82	2.21	2.34	2.34	2.21	1.47	1.47	1.63	1.63	1.36	1.36	0.79	0.79	0.79	0.79	0.79	0.79												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								48.3	48.3	48.3	48.3	48.3	52.9	64.2	64.2	64.2	64.2	64.2	64.2	62.3	62.3	62.3	62.3	62.3	62.3	42.6	42.6	42.6	42.6	42.6	42.6
Total (lbs/day)								2.10	2.10	2.10	2.10	2.10	2.30	2.79	2.79	2.79	2.79	2.79	2.79	2.71	2.71	2.71	2.71	2.71	2.71	1.85	1.85	1.85	1.85	1.85	1.85
Total Onsite Exhaust PM_{10} Emissions (Construction Equipment and V																															
Pounds per Month	**82.4**	**64.8**	**64.8**	**50.8**	**53.8**	**53.8**	**50.8**	**82.0**	**82.0**	**85.6**	**85.6**	**79.5**	**84.2**	**82.4**	**82.4**	**82.4**	**82.4**	**82.4**	**82.4**	**62.3**	**62.3**	**62.3**	**62.3**	**62.3**	**62.3**	**42.6**	**42.6**	**42.6**	**42.6**	**42.6**	**42.6**
Pounds per Day	**3.58**	**2.82**	**2.82**	**2.21**	**2.34**	**2.34**	**2.21**	**3.57**	**3.57**	**3.72**	**3.72**	**3.46**	**3.66**	**3.58**	**3.58**	**3.58**	**3.58**	**3.58**	**3.58**	**2.71**	**2.71**	**2.71**	**2.71**	**2.71**	**2.71**	**1.85**	**1.85**	**1.85**	**1.85**	**1.85**	**1.85**
Yearly Maximums	**836**	**838**	**855**	**873**	**905**	**933**	**962**	**993**	**974**	**954**	**931**	**907**	**890**	**868**	**828**	**788**	**748**	**709**	**669**	**629**											
Maximum Pounds per Day																															
Maximum Pounds per Hour*																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour																															
Year with Maximum																															
Tons per Year																															

Onsite Fugitive PM_{10} Emissions

Construction Step	e PM_{10} Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	263	263	243	175	175	175	175	97	97	97	97	97	97	58	58	58	58	58	58												
Total (lbs/day)	11.42	11.42	10.57	7.61	7.61	7.61	7.61	4.23	4.23	4.23	4.23	4.23	4.23	2.54	2.54	2.54	2.54	2.54	2.54												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								170	170	170	170	170	170	325	325	325	325	325	325	403	403	403	403	403	403	170	170	170	170	170	170
Total (lbs/day)								7.38	7.38	7.38	7.38	7.38	7.38	14.14	14.14	14.14	14.14	14.14	14.14	17.52	17.52	17.52	17.52	17.52	17.52	7.38	7.38	7.38	7.38	7.38	7.38
Total Onsite Fugitive PM_{10} Emissions (Disinterment, Debris Loading, Grading, Bulldozing, and Onsite Construction Vehicles)																															
Pounds per Month	**263**	**263**	**243**	**175**	**175**	**175**	**175**	**267**	**267**	**267**	**267**	**267**	**267**	**384**	**384**	**384**	**384**	**384**	**384**	**403**	**403**	**403**	**403**	**403**	**403**	**170**	**170**	**170**	**170**	**170**	**170**
Pounds per Day	**11.42**	**11.42**	**10.57**	**7.61**	**7.61**	**7.61**	**7.61**	**11.60**	**11.60**	**11.60**	**11.60**	**11.60**	**11.60**	**16.68**	**16.68**	**16.68**	**16.68**	**16.68**	**16.68**	**17.52**	**17.52**	**17.52**	**17.52**	**17.52**	**17.52**	**7.38**	**7.38**	**7.38**	**7.38**	**7.38**	**7.38**
Yearly Maximums	**2,803**	**2,807**	**2,928**	**3,068**	**3,277**	**3,485**	**3,694**	**3,903**	**4,039**	**4,175**	**4,311**	**4,447**	**4,583**	**4,719**	**4,505**	**4,291**	**4,078**	**3,864**	**3,650**	**3,436**											
Maximum Pounds per Day																															
Maximum Pounds per Hour*																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour																															
Year with Maximum																															
Tons per Year																															

Total Onsite PM_{10} Emissions (Exhaust and Fugitiv

Parameter	PM_{10} Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Pounds per Month	**345**	**327**	**308**	**226**	**229**	**229**	**226**	**349**	**349**	**353**	**353**	**346**	**351**	**466**	**466**	**466**	**466**	**466**	**466**	**465**	**465**	**465**	**465**	**465**	**465**	**212**	**212**	**212**	**212**	**212**	**212**
Pounds per Day	**15.00**	**14.24**	**13.39**	**9.82**	**9.95**	**9.95**	**9.82**	**15.17**	**15.17**	**15.33**	**15.33**	**15.06**	**15.26**	**20.26**	**20.26**	**20.26**	**20.26**	**20.26**	**20.26**	**20.23**	**20.23**	**20.23**	**20.23**	**20.23**	**20.23**	**9.23**	**9.23**	**9.23**	**9.23**	**9.23**	**9.23**
Yearly Maximums	**3,639**	**3,645**	**3,783**	**3,941**	**4,181**	**4,419**	**4,656**	**4,896**	**5,012**	**5,129**	**5,241**	**5,354**	**5,473**	**5,587**	**5,333**	**5,080**	**4,826**	**4,572**	**4,319**	**4,065**											
Maximum Pounds per Day																															
Maximum Pounds per Hour*																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour																															
Year with Maximum																															
Tons per Year																															

Table 5.1A.28R Onsite Construction Exhaust and I

Onsite Exhaust $PM_{2.5}$ Emissions

Construction Step	t $PM_{2.5}$ Emissions by Month																														
	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	76.5	60.4	60.4	47.5	50.2	50.2	47.5	31.4	31.4	34.7	34.7	29.1	29.1	17.1	17.1	17.1	17.1	17.1	17.1												
Total (lbs/day)	3.33	2.63	2.62	2.06	2.18	2.18	2.06	1.36	1.36	1.51	1.51	1.26	1.26	0.74	0.74	0.74	0.74	0.74	0.74												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								45.0	45.0	45.0	45.0	45.0	49.3	60.0	60.0	60.0	60.0	60.0	60.0	58.3	58.3	58.3	58.3	58.3	58.3	39.7	39.7	39.7	39.7	39.7	39.7
Total (lbs/day)								1.96	1.96	1.96	1.96	1.96	2.14	2.61	2.61	2.61	2.61	2.61	2.61	2.54	2.54	2.54	2.54	2.54	2.54	1.73	1.73	1.73	1.73	1.73	1.73
Total Onsite Exhaust $PM_{2.5}$ Emissions (Construction Equipment and V																															
Pounds per Month	**76.5**	**60.4**	**60.4**	**47.5**	**50.2**	**50.2**	**47.5**	**76.4**	**76.4**	**79.7**	**79.7**	**74.1**	**78.4**	**77.1**	**77.1**	**77.1**	**77.1**	**77.1**	**77.1**	**58.3**	**58.3**	**58.3**	**58.3**	**58.3**	**58.3**	**39.7**	**39.7**	**39.7**	**39.7**	**39.7**	**39.7**
Pounds per Day	**3.33**	**2.63**	**2.62**	**2.06**	**2.18**	**2.18**	**2.06**	**3.32**	**3.32**	**3.47**	**3.47**	**3.22**	**3.41**	**3.35**	**3.35**	**3.35**	**3.35**	**3.35**	**3.35**	**2.54**	**2.54**	**2.54**	**2.54**	**2.54**	**2.54**	**1.73**	**1.73**	**1.73**	**1.73**	**1.73**	**1.73**
Yearly Maximums	**779**	**781**	**797**	**814**	**844**	**871**	**897**	**927**	**909**	**891**	**870**	**848**	**832**	**812**	**775**	**738**	**700**	**663**	**625**	**588**											
Maximum Pounds per Day																															
Maximum Pounds per Hour[a]																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour[a]																															
Year with Maximum																															
Tons per Year																															

Onsite Fugitive $PM_{2.5}$ Emissions

Construction Step	e $PM_{2.5}$ Emissions by Month																														
	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	56.6	56.6	54.7	17.5	17.5	17.5	17.5	9.7	9.7	9.7	9.7	9.7	9.7	5.8	5.8	5.8	5.8	5.8	5.8												
Total (lbs/day)	2.46	2.46	2.38	0.76	0.76	0.76	0.76	0.42	0.42	0.42	0.42	0.42	0.42	0.25	0.25	0.25	0.25	0.25	0.25												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								17.7	17.7	17.7	17.7	17.7	17.7	33.2	33.2	33.2	33.2	33.2	33.2	41.0	41.0	41.0	41.0	41.0	41.0	17.7	17.7	17.7	17.7	17.7	17.7
Total (lbs/day)								0.77	0.77	0.77	0.77	0.77	0.77	1.45	1.45	1.45	1.45	1.45	1.45	1.78	1.78	1.78	1.78	1.78	1.78	0.77	0.77	0.77	0.77	0.77	0.77
Total Onsite Fugitive $PM_{2.5}$ Emissions (Dismemberment, Debris Loading, Grading, Bulldozing, and Onsite Construction Vehicles)																															
Pounds per Month	**57**	**57**	**55**	**17**	**17**	**17**	**17**	**27**	**27**	**27**	**27**	**27**	**27**	**39**	**39**	**39**	**39**	**39**	**39**	**41**	**41**	**41**	**41**	**41**	**41**	**18**	**18**	**18**	**18**	**18**	**18**
Pounds per Day	**2.46**	**2.46**	**2.38**	**0.76**	**0.76**	**0.76**	**0.76**	**1.19**	**1.19**	**1.19**	**1.19**	**1.19**	**1.19**	**1.70**	**1.70**	**1.70**	**1.70**	**1.70**	**1.70**	**1.78**	**1.78**	**1.78**	**1.78**	**1.78**	**1.78**	**0.77**	**0.77**	**0.77**	**0.77**	**0.77**	**0.77**
Yearly Maximums	**375**	**346**	**328**	**313**	**334**	**356**	**377**	**399**	**413**	**426**	**440**	**453**	**467**	**481**	**459**	**438**	**416**	**395**	**374**	**352**											
Maximum Pounds per Day																															
Maximum Pounds per Hour[a]																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour[a]																															
Year with Maximum																															
Tons per Year																															

Total Onsite $PM_{2.5}$ Emissions (Exhaust and Fugitiv

Parameter	$PM_{2.5}$ Emissions by Month																														
	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Pounds per Month	**133**	**117**	**115**	**65**	**68**	**68**	**65**	**104**	**104**	**107**	**107**	**102**	**106**	**116**	**116**	**116**	**116**	**116**	**116**	**99**	**99**	**99**	**99**	**99**	**99**	**57**	**57**	**57**	**57**	**57**	**57**
Pounds per Day	**5.79**	**5.09**	**5.00**	**2.82**	**2.94**	**2.94**	**2.82**	**4.51**	**4.51**	**4.66**	**4.66**	**4.41**	**4.60**	**5.05**	**5.05**	**5.05**	**5.05**	**5.05**	**5.05**	**4.32**	**4.32**	**4.32**	**4.32**	**4.32**	**4.32**	**2.49**	**2.49**	**2.49**	**2.49**	**2.49**	**2.49**
Yearly Maximums	**1,154**	**1,127**	**1,126**	**1,127**	**1,178**	**1,226**	**1,275**	**1,326**	**1,322**	**1,317**	**1,309**	**1,302**	**1,299**	**1,293**	**1,234**	**1,175**	**1,117**	**1,058**	**999**	**940**											
Maximum Pounds per Day																															
Maximum Pounds per Hour[a]																															
Maximum Pounds per Month																															
Month with Maximum																															
Maximum Pounds per Year																															
Maximum Average Pounds per Hour[a]																															
Year with Maximum																															
Tons per Year																															

Table 5.1A.28R Onsite Construction Exhaust and I

Onsite CO_2 Emissions

Construction Step	CO_2 Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	142.7	113.2	113.2	85.0	88.8	88.8	85.0	63.9	63.9	68.6	68.6	60.9	60.9	30.9	30.9	30.9	30.9	30.9	30.9												
Total (lbs/day)	6.21	4.92	4.92	3.70	3.86	3.86	3.70	2.78	2.78	2.98	2.98	2.65	2.65	1.34	1.34	1.34	1.34	1.34	1.34												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								112.0	112.0	112.0	112.0	112.0	119.8	137.8	137.8	137.8	137.8	137.8	137.8	150.7	150.7	150.7	150.7	150.7	150.7	112.0	112.0	112.0	112.0	112.0	112.0
Total (lbs/day)								4.87	4.87	4.87	4.87	4.87	5.21	5.99	5.99	5.99	5.99	5.99	5.99	6.55	6.55	6.55	6.55	6.55	6.55	4.87	4.87	4.87	4.87	4.87	4.87
Total Onsite CO_2 Emissions (Construction Equipment and Vehicles)																															
Metric Tons per Month	**142.7**	**113.2**	**113.2**	**85.0**	**88.8**	**88.8**	**85.0**	**175.9**	**175.9**	**180.6**	**180.6**	**172.9**	**180.7**	**168.7**	**168.7**	**168.7**	**168.7**	**168.7**	**168.7**	**150.7**	**150.7**	**150.7**	**150.7**	**150.7**	**150.7**	**112.0**	**112.0**	**112.0**	**112.0**	**112.0**	**112.0**
Metric Tons per Day	**6.21**	**4.92**	**4.92**	**3.70**	**3.86**	**3.86**	**3.70**	**7.65**	**7.65**	**7.85**	**7.85**	**7.52**	**7.85**	**7.33**	**7.33**	**7.33**	**7.33**	**7.33**	**7.33**	**6.55**	**6.55**	**6.55**	**6.55**	**6.55**	**6.55**	**4.87**	**4.87**	**4.87**	**4.87**	**4.87**	**4.87**
Yearly Maximums	**1,603**	**1,641**	**1,696**	**1,752**	**1,835**	**1,915**	**1,995**	**2,079**	**2,053**	**2,028**	**1,998**	**1,968**	**1,946**	**1,916**	**1,859**	**1,803**	**1,746**	**1,689**	**1,633**	**1,576**											
Maximum Metric Tons per Day																															
Maximum Metric Tons per Hour[a]																															
Maximum Metric Tons per Month[b]																															
Month with Maximum																															
Maximum Metric Tons per Year																															
Maximum Average Metric Tons per Hour[b]																															
Year with Maximum																															

Onsite N_2O Emissions

Construction Step	N_2O Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	0.00363	0.00288	0.00288	0.00216	0.00226	0.00226	0.00216	0.00162	0.00162	0.00174	0.00174	0.00155	0.00155	0.00078	0.00078	0.00078	0.00078	0.00078	0.00078												
Total (lbs/day)	0.00016	0.00013	0.00013	0.00009	0.00010	0.00010	0.00009	0.00007	0.00007	0.00008	0.00008	0.00007	0.00007	0.00003	0.00003	0.00003	0.00003	0.00003	0.00003												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								0.00285	0.00285	0.00285	0.00285	0.00285	0.00304	0.00350	0.00350	0.00350	0.00350	0.00350	0.00350	0.00382	0.00382	0.00382	0.00382	0.00382	0.00382	0.00285	0.00285	0.00285	0.00285	0.00285	0.00285
Total (lbs/day)								0.00012	0.00012	0.00012	0.00012	0.00012	0.00013	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00012	0.00012	0.00012	0.00012	0.00012	0.00012
Total Onsite N_2O Emissions (Construction Equipment and Vehicles)																															
Metric Tons per Month	**0.00363**	**0.00288**	**0.00288**	**0.00216**	**0.00226**	**0.00226**	**0.00216**	**0.00447**	**0.00447**	**0.00459**	**0.00459**	**0.00439**	**0.00459**	**0.00428**	**0.00428**	**0.00428**	**0.00428**	**0.00428**	**0.00428**	**0.00382**	**0.00382**	**0.00382**	**0.00382**	**0.00382**	**0.00382**	**0.00285**	**0.00285**	**0.00285**	**0.00285**	**0.00285**	**0.00285**
Metric Tons per Day	**0.00016**	**0.00013**	**0.00013**	**0.00009**	**0.00010**	**0.00010**	**0.00009**	**0.00019**	**0.00019**	**0.00020**	**0.00020**	**0.00019**	**0.00020**	**0.00019**	**0.00019**	**0.00019**	**0.00019**	**0.00019**	**0.00019**	**0.00017**	**0.00017**	**0.00017**	**0.00017**	**0.00017**	**0.00017**	**0.00012**	**0.00012**	**0.00012**	**0.00012**	**0.00012**	**0.00012**
Yearly Maximums	**0.0407**	**0.0417**	**0.0431**	**0.0445**	**0.0466**	**0.0486**	**0.0507**	**0.0528**	**0.0521**	**0.0515**	**0.0507**	**0.0499**	**0.0494**	**0.0486**	**0.0472**	**0.0457**	**0.0443**	**0.0429**	**0.0414**	**0.0400**											
Maximum Metric Tons per Day																															
Maximum Metric Tons per Hour[a]																															
Maximum Metric Tons per Month[b]																															
Month with Maximum																															
Maximum Metric Tons per Year																															
Maximum Average Metric Tons per Hour[b]																															
Year with Maximum																															

Onsite CH_4 Emissions

Construction Step	CH_4 Emissions by Month 30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																															
Total (lbs/month)																															
Total (lbs/day)																															
Power Block Construction																															
Total (lbs/month)	0.00809	0.00642	0.00642	0.00482	0.00503	0.00503	0.00482	0.00362	0.00362	0.00389	0.00389	0.00345	0.00345	0.00175	0.00175	0.00175	0.00175	0.00175	0.00175												
Total (lbs/day)	0.00035	0.00028	0.00028	0.00021	0.00022	0.00022	0.00021	0.00016	0.00016	0.00017	0.00017	0.00015	0.00015	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008												
Demolition of Units 5&6 and 7&8																															
Total (lbs/month)								0.00635	0.00635	0.00635	0.00635	0.00635	0.00679	0.00780	0.00780	0.00780	0.00780	0.00780	0.00780	0.00852	0.00852	0.00852	0.00852	0.00852	0.00852	0.00635	0.00635	0.00635	0.00635	0.00635	0.00635
Total (lbs/day)								0.00028	0.00028	0.00028	0.00028	0.00028	0.00030	0.00034	0.00034	0.00034	0.00034	0.00034	0.00034	0.00037	0.00037	0.00037	0.00037	0.00037	0.00037	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028
Total Onsite CH_4 Emissions (Construction Equipment and Vehicles)																															
Metric Tons per Month	**0.00809**	**0.00642**	**0.00642**	**0.00482**	**0.00503**	**0.00503**	**0.00482**	**0.00997**	**0.00997**	**0.01024**	**0.01024**	**0.00980**	**0.01024**	**0.00955**	**0.00955**	**0.00955**	**0.00955**	**0.00955**	**0.00955**	**0.00852**	**0.00852**	**0.00852**	**0.00852**	**0.00852**	**0.00852**	**0.00635**	**0.00635**	**0.00635**	**0.00635**	**0.00635**	**0.00635**
Metric Tons per Day	**0.00035**	**0.00028**	**0.00028**	**0.00021**	**0.00022**	**0.00022**	**0.00021**	**0.00043**	**0.00043**	**0.00045**	**0.00045**	**0.00043**	**0.00045**	**0.00042**	**0.00042**	**0.00042**	**0.00042**	**0.00042**	**0.00042**	**0.00037**	**0.00037**	**0.00037**	**0.00037**	**0.00037**	**0.00037**	**0.00028**	**0.00028**	**0.00028**	**0.00028**	**0.00028**	**0.00028**
Yearly Maximums	**0.0909**	**0.0930**	**0.0961**	**0.0993**	**0.1040**	**0.1085**	**0.1130**	**0.1177**	**0.1163**	**0.1148**	**0.1131**	**0.1114**	**0.1101**	**0.1084**	**0.1052**	**0.1020**	**0.0988**	**0.0956**	**0.0924**	**0.0892**											
Maximum Metric Tons per Day																															
Maximum Metric Tons per Hour[a]																															
Maximum Metric Tons per Month[b]																															
Month with Maximum																															
Maximum Metric Tons per Year																															
Maximum Average Metric Tons per Hour[b]																															
Year with Maximum																															

Notes:

[a] The hours per day are per 'Manpower_Schedule_Redondo_Beach 10.31

[b] The hours per year are assumed to allow operation 24 hours per day, 7 d
10.31.12.xls':

Table 5.1A.29R Offsite Construction Exhaust and Fugitive Emissions Summary

Offsite CO Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	147	166	221	243	276	282	276	266	261	217	195	172																
Total (lbs/day)	6.4	7.2	9.6	10.6	12.0	12.2	12.0	11.6	11.4	9.4	8.5	7.5																
Power Block Construction																												
Total (lbs/month)															76.21	105.42	146.85	168.07	231.34	238.74	239.04	284.00	291.21	310.08	319.20	378.80	489.33	489.95
Total (lbs/day)															3.31	4.58	6.38	7.31	10.06	10.38	10.39	12.35	12.66	13.48	13.88	16.47	21.28	21.30
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite CO Emissions (Construction Vehicles)																												
Pounds per Month	**146.96**	**166.41**	**220.78**	**243.34**	**275.81**	**281.52**	**276.04**	**266.31**	**261.45**	**217.02**	**195.38**	**172.13**	**0.00**	**0.00**	**76.21**	**105.42**	**146.85**	**168.07**	**231.34**	**238.74**	**239.04**	**284.00**	**291.21**	**310.08**	**319.20**	**378.80**	**489.33**	**489.95**
Pounds per Day	**6.39**	**7.24**	**9.60**	**10.58**	**11.99**	**12.24**	**12.00**	**11.58**	**11.37**	**9.44**	**8.49**	**7.48**	**0.00**	**0.00**	**3.31**	**4.58**	**6.38**	**7.31**	**10.06**	**10.38**	**10.39**	**12.35**	**12.66**	**13.48**	**13.88**	**16.47**	**21.28**	**21.30**
Yearly Maximums	**2,723**	**2,576**	**2,410**	**2,265**	**2,127**	**1,998**	**1,885**	**1,840**	**1,813**	**1,790**	**1,857**	**1,953**	**2,091**	**2,410**	**2,789**	**3,202**	**3,587**	**3,929**	**4,249**	**4,626**	**4,998**	**5,369**	**5,682**	**6,044**	**6,394**	**6,795**	**7,090**	**7,237**

Maximum Pounds per Day	**31.29**
Maximum Pounds per Hour [a]	**3.13**
Maximum Pounds per Month	**719.64**
Month with Maximum	**37**
Maximum Pounds per Year	**7,625**
Maximum Average Pounds per Hour [b]	**0.87**
Year with Maximum	**Months 31-42**
Tons per Year	**3.81**

Offsite VOC Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	9	11	14	14	20	18	18	17	16	15	11	10																
Total (lbs/day)	0.4	0.5	0.6	0.6	0.9	0.8	0.8	0.7	0.7	0.6	0.5	0.4																
Power Block Construction																												
Total (lbs/month)															1.67	3.21	4.16	4.75	6.43	7.25	7.72	8.64	9.41	10.31	10.68	11.55	13.83	13.97
Total (lbs/day)															0.07	0.14	0.18	0.21	0.28	0.32	0.34	0.38	0.41	0.45	0.46	0.50	0.60	0.61
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite VOC Emissions (Construction Vehicles)																												
Pounds per Month	**8.67**	**11.16**	**13.75**	**14.25**	**19.61**	**18.19**	**17.88**	**16.63**	**16.01**	**14.72**	**11.29**	**9.74**	**0.00**	**0.00**	**1.67**	**3.21**	**4.16**	**4.75**	**6.43**	**7.25**	**7.72**	**8.64**	**9.41**	**10.31**	**10.68**	**11.55**	**13.83**	**13.97**
Pounds per Day	**0.38**	**0.49**	**0.60**	**0.62**	**0.85**	**0.79**	**0.78**	**0.72**	**0.70**	**0.64**	**0.49**	**0.42**	**0.00**	**0.00**	**0.07**	**0.14**	**0.18**	**0.21**	**0.28**	**0.32**	**0.34**	**0.38**	**0.41**	**0.45**	**0.46**	**0.50**	**0.60**	**0.61**
Yearly Maximums	**172**	**163**	**152**	**140**	**129**	**113**	**100**	**89**	**79**	**71**	**65**	**63**	**64**	**74**	**86**	**98**	**109**	**118**	**127**	**136**	**145**	**152**	**159**	**166**	**171**	**183**	**193**	**200**

Maximum Pounds per Day	**0.98**
Maximum Pounds per Hour [a]	**0.10**
Maximum Pounds per Month	**22.55**
Month with Maximum	**37**
Maximum Pounds per Year	**222**
Maximum Average Pounds per Hour [b]	**0.03**
Year with Maximum	**Months 37 - 48**
Tons per Year	**0.11**

Offsite NOx Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	174	237	283	285	425	380	374	342	327	313	224	191																
Total (lbs/day)	7.6	10.3	12.3	12.4	18.5	16.5	16.2	14.9	14.2	13.6	9.7	8.3																
Power Block Construction																												
Total (lbs/month)															10.67	39.08	45.98	52.32	69.17	87.99	100.79	105.20	122.94	138.51	131.06	127.87	138.48	141.62
Total (lbs/day)															0.46	1.70	2.00	2.27	3.01	3.83	4.38	4.57	5.35	6.02	5.70	5.56	6.02	6.16
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite NOx Emissions (Construction Vehicles)																												
Pounds per Month	**173.81**	**236.52**	**282.73**	**284.95**	**424.95**	**379.91**	**373.67**	**342.32**	**326.64**	**313.37**	**224.18**	**191.49**	**0.00**	**0.00**	**10.67**	**39.08**	**45.98**	**52.32**	**69.17**	**87.99**	**100.79**	**105.20**	**122.94**	**138.51**	**131.06**	**127.87**	**138.48**	**141.62**
Pounds per Day	**7.56**	**10.28**	**12.29**	**12.39**	**18.48**	**16.52**	**16.25**	**14.88**	**14.20**	**13.62**	**9.75**	**8.33**	**0.00**	**0.00**	**0.46**	**1.70**	**2.00**	**2.27**	**3.01**	**3.83**	**4.38**	**4.57**	**5.35**	**6.02**	**5.70**	**5.56**	**6.02**	**6.16**
Yearly Maximums	**3,555**	**3,381**	**3,144**	**2,872**	**2,626**	**2,247**	**1,920**	**1,615**	**1,361**	**1,135**	**927**	**826**	**773**	**904**	**1,032**	**1,159**	**1,262**	**1,352**	**1,435**	**1,497**	**1,540**	**1,570**	**1,580**	**1,592**	**1,573**	**1,684**	**1,795**	**1,892**

Maximum Pounds per Day	**18.48**
Maximum Pounds per Hour [a]	**1.85**
Maximum Pounds per Month	**424.95**
Month with Maximum	**5**
Maximum Pounds per Year	**3,555**
Maximum Average Pounds per Hour [b]	**0.41**
Year with Maximum	**Months 1-12**
Tons per Year	**1.78**

Table 5.1A.29R Offsite Construction Exhaust and Fugitive Emissions Summary

Offsite SOx Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	0.78	0.98	1.23	1.29	1.71	1.62	1.59	1.49	1.44	1.30	1.02	0.89																
Total (lbs/day)	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.06	0.06	0.06	0.04	0.04																
Power Block Construction																												
Total (lbs/month)															0.235	0.390	0.520	0.595	0.811	0.882	0.917	1.051	1.118	1.211	1.251	1.403	1.734	1.745
Total (lbs/day)															0.010	0.017	0.023	0.026	0.035	0.038	0.040	0.046	0.049	0.053	0.054	0.061	0.075	0.076
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite SOx Emissions (Construction Vehicles)																												
Pounds per Month	**0.783**	**0.984**	**1.230**	**1.291**	**1.712**	**1.616**	**1.587**	**1.487**	**1.437**	**1.296**	**1.025**	**0.888**	**0.000**	**0.000**	**0.235**	**0.390**	**0.520**	**0.595**	**0.811**	**0.882**	**0.917**	**1.051**	**1.118**	**1.211**	**1.251**	**1.403**	**1.734**	**1.745**
Pounds per Day	**0.034**	**0.043**	**0.053**	**0.056**	**0.074**	**0.070**	**0.069**	**0.065**	**0.062**	**0.056**	**0.045**	**0.039**	**0.000**	**0.000**	**0.010**	**0.017**	**0.023**	**0.026**	**0.035**	**0.038**	**0.040**	**0.046**	**0.049**	**0.053**	**0.054**	**0.061**	**0.075**	**0.076**
Yearly Maximums	**15.337**	**14.554**	**13.570**	**12.575**	**11.674**	**10.483**	**9.461**	**8.685**	**8.080**	**7.560**	**7.315**	**7.408**	**7.730**	**8.982**	**10.385**	**11.884**	**13.238**	**14.442**	**15.571**	**16.793**	**17.951**	**19.073**	**19.976**	**21.025**	**21.956**	**23.444**	**24.677**	**25.469**

Maximum Pounds per Day	**0.119**
Maximum Pounds per Hour [a]	**0.012**
Maximum Pounds per Month	**2.739**
Month with Maximum	**37**
Maximum Pounds per Year	**27.617**
Maximum Average Pounds per Hour [b]	**0.003**
Year with Maximum	**Months 31-42**
Tons per Year	**0.014**

Offsite Exhaust PM_{10} Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	44.1	52.6	67.8	72.9	89.5	87.8	86.1	81.9	79.7	69.1	58.2	50.9																
Total (lbs/day)	1.92	2.29	2.95	3.17	3.89	3.82	3.74	3.56	3.47	3.00	2.53	2.21																
Power Block Construction																												
Total (lbs/month)															19.51	28.69	39.28	44.94	61.70	64.84	65.80	77.18	80.20	85.90	88.44	102.88	130.91	131.30
Total (lbs/day)															0.85	1.25	1.71	1.95	2.68	2.82	2.86	3.36	3.49	3.73	3.85	4.47	5.69	5.71
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite Exhaust PM_{10} Emissions (Construction Vehicles)																												
Pounds per Month	**44.07**	**52.57**	**67.76**	**72.94**	**89.49**	**87.77**	**86.13**	**81.87**	**79.75**	**69.09**	**58.21**	**50.85**	**0.00**	**0.00**	**19.51**	**28.69**	**39.28**	**44.94**	**61.70**	**64.84**	**65.80**	**77.18**	**80.20**	**85.90**	**88.44**	**102.88**	**130.91**	**131.30**
Pounds per Day	**1.92**	**2.29**	**2.95**	**3.17**	**3.89**	**3.82**	**3.74**	**3.56**	**3.47**	**3.00**	**2.53**	**2.21**	**0.00**	**0.00**	**0.85**	**1.25**	**1.71**	**1.95**	**2.68**	**2.82**	**2.86**	**3.36**	**3.49**	**3.73**	**3.85**	**4.47**	**5.69**	**5.71**
Yearly Maximums	**840**	**796**	**744**	**696**	**651**	**601**	**558**	**534**	**517**	**503**	**511**	**533**	**568**	**656**	**759**	**871**	**973**	**1,065**	**1,150**	**1,248**	**1,344**	**1,438**	**1,516**	**1,607**	**1,693**	**1,793**	**1,869**	**1,909**

Maximum Pounds per Day	**8.19**
Maximum Pounds per Hour [a]	**0.82**
Maximum Pounds per Month	**188.32**
Month with Maximum	**37**
Maximum Pounds per Year	**2,015**
Maximum Average Pounds per Hour [b]	**0.23**
Year with Maximum	**Months 31-42**
Tons per Year	**1.01**

Offsite Exhaust $PM_{2.5}$ Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	13.9	17.0	21.6	23.0	29.2	28.2	27.7	26.1	25.4	22.4	18.3	15.9																
Total (lbs/day)	0.61	0.74	0.94	1.00	1.27	1.22	1.20	1.14	1.10	0.97	0.80	0.69																
Power Block Construction																												
Total (lbs/month)															5.35	8.17	11.08	12.67	17.37	18.44	18.86	21.96	22.99	24.71	25.39	29.22	36.86	37.00
Total (lbs/day)															0.23	0.36	0.48	0.55	0.76	0.80	0.82	0.95	1.00	1.07	1.10	1.27	1.60	1.61
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite Exhaust $PM_{2.5}$ Emissions (Construction Vehicles)																												
Pounds per Month	**13.92**	**16.97**	**21.61**	**23.02**	**29.19**	**28.17**	**27.65**	**26.12**	**25.36**	**22.36**	**18.32**	**15.95**	**0.00**	**0.00**	**5.35**	**8.17**	**11.08**	**12.67**	**17.37**	**18.44**	**18.86**	**21.96**	**22.99**	**24.71**	**25.39**	**29.22**	**36.86**	**37.00**
Pounds per Day	**0.61**	**0.74**	**0.94**	**1.00**	**1.27**	**1.22**	**1.20**	**1.14**	**1.10**	**0.97**	**0.80**	**0.69**	**0.00**	**0.00**	**0.23**	**0.36**	**0.48**	**0.55**	**0.76**	**0.80**	**0.82**	**0.95**	**1.00**	**1.07**	**1.10**	**1.27**	**1.60**	**1.61**
Yearly Maximums	**269**	**255**	**238**	**221**	**207**	**189**	**173**	**163**	**155**	**149**	**148**	**153**	**162**	**187**	**216**	**248**	**277**	**302**	**326**	**353**	**380**	**405**	**426**	**451**	**474**	**502**	**525**	**537**

Maximum Pounds per Day	**2.34**
Maximum Pounds per Hour [a]	**0.23**
Maximum Pounds per Month	**53.90**
Month with Maximum	**37**
Maximum Pounds per Year	**569**
Maximum Average Pounds per Hour [b]	**0.06**
Year with Maximum	**Months 31-42**
Tons per Year	**0.28**

Table 5.1A.29R Offsite Construction Exhaust and Fugitive Emissions Summary

Offsite CO_2 Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	37	47	58	61	81	77	75	71	68	61	49	42																
Total (lbs/day)	1.6	2.0	2.5	2.7	3.5	3.3	3.3	3.1	3.0	2.7	2.1	1.8																
Power Block Construction																												
Total (lbs/month)															11.24	18.62	24.87	28.42	38.77	42.10	43.76	50.15	53.33	57.75	59.69	66.98	82.80	83.32
Total (lbs/day)															0.49	0.81	1.08	1.24	1.69	1.83	1.90	2.18	2.32	2.51	2.60	2.91	3.60	3.62
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite CO_2 Emissions (Construction Vehicles)																												
Metric Tons per Month	**37.23**	**46.70**	**58.40**	**61.30**	**81.17**	**76.68**	**75.32**	**70.58**	**68.21**	**61.45**	**48.70**	**42.21**	**0.00**	**0.00**	**11.24**	**18.62**	**24.87**	**28.42**	**38.77**	**42.10**	**43.76**	**50.15**	**53.33**	**57.75**	**59.69**	**66.98**	**82.80**	**83.32**
Metric Tons per Day	**1.62**	**2.03**	**2.54**	**2.67**	**3.53**	**3.33**	**3.27**	**3.07**	**2.97**	**2.67**	**2.12**	**1.84**	**0.00**	**0.00**	**0.49**	**0.81**	**1.08**	**1.24**	**1.69**	**1.83**	**1.90**	**2.18**	**2.32**	**2.51**	**2.60**	**2.91**	**3.60**	**3.62**
Yearly Maximums	**728**	**691**	**644**	**597**	**554**	**498**	**450**	**413**	**385**	**360**	**349**	**353**	**369**	**429**	**496**	**567**	**632**	**689**	**743**	**802**	**857**	**911**	**954**	**1,004**	**1,049**	**1,120**	**1,179**	**1,217**

Maximum Metric Tons per Day	**5.69**
Maximum Metric Tons per Hour [a]	**0.57**
Maximum Metric Tons per Month	**130.77**
Month with Maximum	**37**
Maximum Metric Tons per Year	**1,319**
Maximum Average Metric Tons per Hour [b]	**0.15**
Year with Maximum	**Months 31-42**

Offsite N_2O Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	0.00020	0.00024	0.00031	0.00033	0.00041	0.00040	0.00039	0.00037	0.00037	0.00032	0.00027	0.00023																
Total (lbs/day)	0.000009	0.000010	0.000013	0.000015	0.000018	0.000017	0.000017	0.000016	0.000016	0.000014	0.000012	0.000010																
Power Block Construction																												
Total (lbs/month)															0.0000917	0.0001342	0.0001840	0.0002106	0.0002891	0.0003034	0.0003076	0.0003611	0.0003748	0.0004013	0.0004137	0.0004819	0.0006137	0.0006155
Total (lbs/day)															0.0000040	0.0000058	0.0000080	0.0000092	0.0000126	0.0000132	0.0000134	0.0000157	0.0000163	0.0000174	0.0000180	0.0000210	0.0000267	0.0000268
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite N_2O Emissions (Construction Vehicles)																												
Metric Tons per Month	**0.0002**	**0.0002**	**0.0003**	**0.0003**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0003**	**0.0003**	**0.0002**	**0.0000**	**0.0000**	**0.0001**	**0.0001**	**0.0002**	**0.0002**	**0.0003**	**0.0003**	**0.0003**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0005**	**0.0006**	**0.0006**
Metric Tons per Day	**0.000009**	**0.000010**	**0.000013**	**0.000015**	**0.000018**	**0.000017**	**0.000017**	**0.000016**	**0.000016**	**0.000014**	**0.000012**	**0.000010**	**0.000000**	**0.000000**	**0.000004**	**0.000006**	**0.000008**	**0.000009**	**0.000013**	**0.000013**	**0.000013**	**0.000016**	**0.000016**	**0.000017**	**0.000018**	**0.000021**	**0.000027**	**0.000027**
Yearly Maximums	**0.0038**	**0.0036**	**0.0034**	**0.0032**	**0.0030**	**0.0028**	**0.0026**	**0.0025**	**0.0024**	**0.0023**	**0.0024**	**0.0025**	**0.0027**	**0.0031**	**0.0036**	**0.0041**	**0.0046**	**0.0050**	**0.0054**	**0.0058**	**0.0063**	**0.0067**	**0.0071**	**0.0075**	**0.0079**	**0.0085**	**0.0089**	**0.0091**

Maximum Metric Tons per Day	**0.000040**
Maximum Metric Tons per Hour [a]	**0.000004**
Maximum Metric Tons per Month	**0.00093**
Month with Maximum	**37**
Maximum Metric Tons per Year	**0.00972**
Maximum Average Metric Tons per Hour [b]	**0.0000011**
Year with Maximum	**Months 31-42**

Offsite CH_4 Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Demolition of Units 1-4																												
Total (lbs/month)	0.0007	0.0008	0.0010	0.0012	0.0013	0.0013	0.0013	0.0013	0.0012	0.0010	0.0009	0.0008																
Total (lbs/day)	0.00003	0.00003	0.00005	0.00005	0.00006	0.00006	0.00006	0.00005	0.00005	0.00004	0.00004	0.00004																
Power Block Construction																												
Total (lbs/month)															0.000435	0.000589	0.000824	0.000944	0.001300	0.001334	0.001329	0.001586	0.001619	0.001720	0.001770	0.002116	0.002748	0.002750
Total (lbs/day)															0.000019	0.000026	0.000036	0.000041	0.000057	0.000058	0.000058	0.000069	0.000070	0.000075	0.000077	0.000092	0.000119	0.000120
Demolition of Units 5&6 and 7&8																												
Total (lbs/month)																												
Total (lbs/day)																												
Total Offsite CH_4 Emissions (Construction Vehicles)																												
Metric Tons per Month	**0.00070**	**0.00077**	**0.00104**	**0.00116**	**0.00127**	**0.00132**	**0.00129**	**0.00125**	**0.00124**	**0.00101**	**0.00093**	**0.00082**	**0.00000**	**0.00000**	**0.00043**	**0.00059**	**0.00082**	**0.00094**	**0.00130**	**0.00133**	**0.00133**	**0.00159**	**0.00162**	**0.00172**	**0.00177**	**0.00212**	**0.00275**	**0.00275**
Metric Tons per Day	**0.00003**	**0.00003**	**0.00005**	**0.00005**	**0.00006**	**0.00006**	**0.00006**	**0.00005**	**0.00005**	**0.00004**	**0.00004**	**0.00004**	**0.00000**	**0.00000**	**0.00002**	**0.00003**	**0.00004**	**0.00004**	**0.00006**	**0.00006**	**0.00006**	**0.00007**	**0.00007**	**0.00007**	**0.00008**	**0.00009**	**0.00012**	**0.00012**
Yearly Maximums	**0.0128**	**0.0121**	**0.0113**	**0.0107**	**0.0102**	**0.0097**	**0.0093**	**0.0093**	**0.0094**	**0.0095**	**0.0101**	**0.0108**	**0.0117**	**0.0135**	**0.0156**	**0.0179**	**0.0200**	**0.0220**	**0.0238**	**0.0259**	**0.0280**	**0.0301**	**0.0319**	**0.0340**	**0.0360**	**0.0383**	**0.0400**	**0.0409**

Maximum Metric Tons per Day	**0.00018**
Maximum Metric Tons per Hour [a]	**0.00002**
Maximum Metric Tons per Month	**0.00404**
Month with Maximum	**37**
Maximum Metric Tons per Year	**0.04339**
Maximum Average Metric Tons per Hour [b]	**0.0000050**
Year with Maximum	**Months 31-42**

Notes:

[a] The hours per day are per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls' 10 hours/day

[b] The hours per year are assumed to allow operation 24 hours per day, 7 days per week despite the actual construction schedule per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 8,760 hours/year

[c] There are no offsite activities generating fugitive dust during Demolition of Units 1-4, Power Block Construction, and Demolition of Units 5&6 and 7&8. As a result, only exhaust emissions associated with offsite construction vehicles are included.

Table 5.1A.29R Offsite Construction Exhaust a

Offsite CO Emissions

Construction Step	CO Emissions by Month																														
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	488.78	488.78	608.30	610.34	610.34	597.00	653.26	660.36	666.98	560.70	523.91	542.30	485.56	385.40	223.46	221.41	217.32	192.80	184.93	84.78												
Total (lbs/day)	21.25	21.25	26.45	26.54	26.54	25.96	28.40	28.71	29.00	24.38	22.78	23.58	21.11	16.76	9.72	9.63	9.45	8.38	8.04	3.69												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									52.66	112.83	112.83	112.83	164.82	164.82	210.89	210.89	220.52	220.52	230.16	230.16	239.79	239.79	239.79	239.79	239.79	239.79	179.27	179.27	127.28	117.64	95.64	87.26
Total (lbs/day)									2.29	4.91	4.91	4.91	7.17	7.17	9.17	9.17	9.59	9.59	10.01	10.01	10.43	10.43	10.43	10.43	10.43	10.43	7.79	7.79	5.53	5.11	4.16	3.79
Total Offsite CO Emissions (Construction Vehicles)																																
Pounds per Month	**488.78**	**488.78**	**608.30**	**610.34**	**610.34**	**597.00**	**653.26**	**660.36**	**719.64**	**673.52**	**636.73**	**655.13**	**650.38**	**550.22**	**434.35**	**432.30**	**437.85**	**413.32**	**415.09**	**314.94**	**239.79**	**239.79**	**239.79**	**239.79**	**239.79**	**239.79**	**179.27**	**179.27**	**127.28**	**117.64**	**95.64**	**87.26**
Pounds per Day	**21.25**	**21.25**	**26.45**	**26.54**	**26.54**	**25.96**	**28.40**	**28.71**	**31.29**	**29.28**	**27.68**	**28.48**	**28.28**	**23.92**	**18.88**	**18.80**	**19.04**	**17.97**	**18.05**	**13.69**	**10.43**	**10.43**	**10.43**	**10.43**	**10.43**	**10.43**	**7.79**	**7.79**	**5.53**	**5.11**	**4.16**	**3.79**
Yearly Maximums	**7,402**	**7,564**	**7,625**	**7,451**	**7,273**	**7,101**	**6,917**	**6,679**	**6,333**	**5,854**	**5,420**	**5,023**	**4,608**	**4,197**	**3,887**	**3,632**	**3,378**	**3,068**	**2,772**	**2,453**	**2,225**											
Maximum Pounds per Day																																
Maximum Pounds per Hour [a]																																
Maximum Pounds per Month																																
Month with Maximum																																
Maximum Pounds per Year																																
Maximum Average Pounds per Hour [b]																																
Year with Maximum																																
Tons per Year																																

Offsite VOC Emissions

Construction Step	VOC Emissions by Month																														
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	13.71	13.71	15.52	15.57	15.57	14.67	16.44	15.96	15.78	13.61	12.86	13.24	11.77	9.73	5.10	5.06	4.97	4.47	4.38	2.33												
Total (lbs/day)	0.60	0.60	0.67	0.68	0.68	0.64	0.71	0.69	0.69	0.59	0.56	0.58	0.51	0.42	0.22	0.22	0.22	0.19	0.19	0.10												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									6.77	7.82	7.82	7.82	8.11	8.11	9.91	9.91	12.05	12.05	14.19	14.19	16.33	16.33	16.33	16.33	16.33	16.33	11.32	11.32	11.03	8.89	7.52	7.07
Total (lbs/day)									0.29	0.34	0.34	0.34	0.35	0.35	0.43	0.43	0.52	0.52	0.62	0.62	0.71	0.71	0.71	0.71	0.71	0.71	0.49	0.49	0.48	0.39	0.33	0.31
Total Offsite VOC Emissions (Construction Vehicles)																																
Pounds per Month	**13.71**	**13.71**	**15.52**	**15.57**	**15.57**	**14.67**	**16.44**	**15.96**	**22.55**	**21.43**	**20.68**	**21.06**	**19.88**	**17.84**	**15.00**	**14.96**	**17.02**	**16.52**	**18.56**	**16.52**	**16.33**	**16.33**	**16.33**	**16.33**	**16.33**	**16.33**	**11.32**	**11.32**	**11.03**	**8.89**	**7.52**	**7.07**
Pounds per Day	**0.60**	**0.60**	**0.67**	**0.68**	**0.68**	**0.64**	**0.71**	**0.69**	**0.98**	**0.93**	**0.90**	**0.92**	**0.86**	**0.78**	**0.65**	**0.65**	**0.74**	**0.72**	**0.81**	**0.72**	**0.71**	**0.71**	**0.71**	**0.71**	**0.71**	**0.71**	**0.49**	**0.49**	**0.48**	**0.39**	**0.33**	**0.31**
Yearly Maximums	**207**	**213**	**217**	**217**	**216**	**217**	**219**	**221**	**222**	**216**	**211**	**206**	**202**	**198**	**197**	**193**	**189**	**183**	**176**	**165**	**155**											
Maximum Pounds per Day																																
Maximum Pounds per Hour [a]																																
Maximum Pounds per Month																																
Month with Maximum																																
Maximum Pounds per Year																																
Maximum Average Pounds per Hour [b]																																
Year with Maximum																																
Tons per Year																																

Offsite NOx Emissions

Construction Step	NOx Emissions by Month																														
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	135.73	135.73	130.92	131.10	131.10	114.48	134.92	120.12	103.59	94.89	91.89	93.39	81.71	73.52	30.47	30.31	29.97	27.96	28.73	20.54												
Total (lbs/day)	5.90	5.90	5.69	5.70	5.70	4.98	5.87	5.22	4.50	4.13	4.00	4.06	3.55	3.20	1.32	1.32	1.30	1.22	1.25	0.89												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									138.03	143.88	143.88	143.88	134.89	134.89	161.84	161.84	207.72	207.72	253.60	253.60	255.85	255.85	255.85	255.85	255.85	255.85	174.24	174.24	181.44	142.50	121.48	114.96
Total (lbs/day)									6.00	6.26	6.26	6.26	5.86	5.86	7.04	7.04	9.03	9.03	11.03	11.03	11.12	11.12	11.12	11.12	11.12	11.12	7.58	7.58	7.89	6.20	5.28	5.00
Total Offsite NOx Emissions (Construction Vehicles)																																
Pounds per Month	**135.73**	**135.73**	**130.92**	**131.10**	**131.10**	**114.48**	**134.92**	**120.12**	**241.62**	**238.77**	**235.76**	**237.27**	**216.60**	**208.41**	**192.32**	**192.15**	**237.69**	**235.69**	**282.33**	**274.14**	**255.85**	**255.85**	**255.85**	**255.85**	**255.85**	**255.85**	**174.24**	**174.24**	**181.44**	**142.50**	**121.48**	**114.96**
Pounds per Day	**5.90**	**5.90**	**5.69**	**5.70**	**5.70**	**4.98**	**5.87**	**5.22**	**10.51**	**10.38**	**10.25**	**10.32**	**9.42**	**9.06**	**8.36**	**8.35**	**10.33**	**10.25**	**12.28**	**11.92**	**11.12**	**11.12**	**11.12**	**11.12**	**11.12**	**11.12**	**7.58**	**7.58**	**7.89**	**6.20**	**5.28**	**5.00**
Yearly Maximums	**1,988**	**2,068**	**2,141**	**2,202**	**2,264**	**2,370**	**2,491**	**2,639**	**2,793**	**2,807**	**2,824**	**2,844**	**2,863**	**2,902**	**2,949**	**2,931**	**2,913**	**2,857**	**2,764**	**2,603**	**2,444**											
Maximum Pounds per Day																																
Maximum Pounds per Hour [a]																																
Maximum Pounds per Month																																
Month with Maximum																																
Maximum Pounds per Year																																
Maximum Average Pounds per Hour [b]																																
Year with Maximum																																
Tons per Year																																

Table 5.1A.29R Offsite Construction Exhaust a

Offsite SOx Emissions

Construction Step	SOx Emissions by Month																														
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	1.724	1.724	2.033	2.039	2.039	1.954	2.167	2.142	2.139	1.823	1.714	1.769	1.577	1.280	0.703	0.697	0.684	0.612	0.593	0.295												
Total (lbs/day)	0.075	0.075	0.088	0.089	0.089	0.085	0.094	0.093	0.093	0.079	0.075	0.077	0.069	0.056	0.031	0.030	0.030	0.027	0.026	0.013												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									0.601	0.812	0.812	0.812	0.951	0.951	1.184	1.184	1.360	1.360	1.535	1.535	1.710	1.710	1.710	1.710	1.710	1.710	1.214	1.214	1.075	0.900	0.752	0.705
Total (lbs/day)									0.026	0.035	0.035	0.035	0.041	0.041	0.051	0.051	0.059	0.059	0.067	0.067	0.074	0.074	0.074	0.074	0.074	0.074	0.053	0.053	0.047	0.039	0.033	0.031
Total Offsite SOx Emissions (Construction Vehicles)																																
Pounds per Month	**1.724**	**1.724**	**2.033**	**2.039**	**2.039**	**1.954**	**2.167**	**2.142**	**2.739**	**2.636**	**2.526**	**2.581**	**2.529**	**2.231**	**1.887**	**1.881**	**2.044**	**1.971**	**2.128**	**1.830**	**1.710**	**1.710**	**1.710**	**1.710**	**1.710**	**1.710**	**1.214**	**1.214**	**1.075**	**0.900**	**0.752**	**0.705**
Pounds per Day	**0.075**	**0.075**	**0.088**	**0.089**	**0.089**	**0.085**	**0.094**	**0.093**	**0.119**	**0.115**	**0.110**	**0.112**	**0.110**	**0.097**	**0.082**	**0.082**	**0.089**	**0.086**	**0.093**	**0.080**	**0.074**	**0.074**	**0.074**	**0.074**	**0.074**	**0.074**	**0.053**	**0.053**	**0.047**	**0.039**	**0.033**	**0.031**
Yearly Maximums	**26.306**	**27.110**	**27.617**	**27.471**	**27.312**	**27.317**	**27.334**	**27.295**	**26.983**	**25.953**	**25.028**	**24.211**	**23.340**	**22.522**	**22.000**	**21.328**	**20.661**	**19.693**	**18.622**	**17.246**	**16.121**											
Maximum Pounds per Day																																
Maximum Pounds per Hour [a]																																
Maximum Pounds per Month																																
Month with Maximum																																
Maximum Pounds per Year																																
Maximum Average Pounds per Hour [b]																																
Year with Maximum																																
Tons per Year																																

Offsite Exhaust PM_{10} Emissions

Construction Step	Exhaust PM_{10} Emissions by Month																														
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	130.57	130.57	159.64	160.16	160.16	155.61	171.02	171.65	172.67	145.78	136.47	141.12	126.18	100.84	57.48	56.96	55.93	49.72	47.85	22.50												
Total (lbs/day)	5.68	5.68	6.94	6.96	6.96	6.77	7.44	7.46	7.51	6.34	5.93	6.14	5.49	4.38	2.50	2.48	2.43	2.16	2.08	0.98												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									15.65	33.75	33.75	33.75	48.35	48.35	61.93	61.93	64.25	64.25	66.58	66.58	68.48	68.48	68.48	68.48	68.48	68.48	51.56	51.56	36.93	34.68	28.38	25.66
Total (lbs/day)									0.68	1.47	1.47	1.47	2.10	2.10	2.69	2.69	2.79	2.79	2.89	2.89	2.98	2.98	2.98	2.98	2.98	2.98	2.24	2.24	1.61	1.51	1.23	1.12
Total Offsite Exhaust PM_{10} Emissions (Construction Vehicles)																																
Pounds per Month	**130.57**	**130.57**	**159.64**	**160.16**	**160.16**	**155.61**	**171.02**	**171.65**	**188.32**	**179.53**	**170.22**	**174.87**	**174.54**	**149.20**	**119.41**	**118.89**	**120.18**	**113.98**	**114.43**	**89.08**	**68.48**	**68.48**	**68.48**	**68.48**	**68.48**	**68.48**	**51.56**	**51.56**	**36.93**	**34.68**	**28.38**	**25.66**
Pounds per Day	**5.68**	**5.68**	**6.94**	**6.96**	**6.96**	**6.77**	**7.44**	**7.46**	**8.19**	**7.81**	**7.40**	**7.60**	**7.59**	**6.49**	**5.19**	**5.17**	**5.23**	**4.96**	**4.98**	**3.87**	**2.98**	**2.98**	**2.98**	**2.98**	**2.98**	**2.98**	**2.24**	**2.24**	**1.61**	**1.51**	**1.23**	**1.12**
Yearly Maximums	**1,952**	**1,996**	**2,015**	**1,975**	**1,933**	**1,893**	**1,852**	**1,795**	**1,713**	**1,593**	**1,482**	**1,380**	**1,274**	**1,168**	**1,087**	**1,019**	**952**	**868**	**789**	**703**	**640**											
Maximum Pounds per Day																																
Maximum Pounds per Hour [a]																																
Maximum Pounds per Month																																
Month with Maximum																																
Maximum Pounds per Year																																
Maximum Average Pounds per Hour [b]																																
Year with Maximum																																
Tons per Year																																

Offsite Exhaust $PM_{2.5}$ Emissions

Construction Step	Exhaust $PM_{2.5}$ Emissions by Month																														
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	36.73	36.73	44.45	44.59	44.59	43.15	47.55	47.52	47.66	40.34	37.80	39.07	34.91	28.01	15.81	15.67	15.39	13.70	13.20	6.30												
Total (lbs/day)	1.60	1.60	1.93	1.94	1.94	1.88	2.07	2.07	2.07	1.75	1.64	1.70	1.52	1.22	0.69	0.68	0.67	0.60	0.57	0.27												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									6.24	11.17	11.17	11.17	14.96	14.96	19.00	19.00	20.32	20.32	21.65	21.65	22.58	22.58	22.58	22.58	22.58	22.58	16.68	16.68	12.88	11.62	9.58	8.78
Total (lbs/day)									0.27	0.49	0.49	0.49	0.65	0.65	0.83	0.83	0.88	0.88	0.94	0.94	0.98	0.98	0.98	0.98	0.98	0.98	0.73	0.73	0.56	0.51	0.42	0.38
Total Offsite Exhaust $PM_{2.5}$ Emissions (Construction Vehicles)																																
Pounds per Month	**36.73**	**36.73**	**44.45**	**44.59**	**44.59**	**43.15**	**47.55**	**47.52**	**53.90**	**51.51**	**48.97**	**50.24**	**49.86**	**42.96**	**34.81**	**34.67**	**35.71**	**34.02**	**34.85**	**27.95**	**22.58**	**22.58**	**22.58**	**22.58**	**22.58**	**22.58**	**16.68**	**16.68**	**12.88**	**11.62**	**9.58**	**8.78**
Pounds per Day	**1.60**	**1.60**	**1.93**	**1.94**	**1.94**	**1.88**	**2.07**	**2.07**	**2.34**	**2.24**	**2.13**	**2.18**	**2.17**	**1.87**	**1.51**	**1.51**	**1.55**	**1.48**	**1.52**	**1.22**	**0.98**	**0.98**	**0.98**	**0.98**	**0.98**	**0.98**	**0.73**	**0.73**	**0.56**	**0.51**	**0.42**	**0.38**
Yearly Maximums	**550**	**563**	**569**	**560**	**550**	**541**	**532**	**519**	**499**	**468**	**439**	**413**	**385**	**358**	**338**	**319**	**301**	**279**	**256**	**231**	**212**											
Maximum Pounds per Day																																
Maximum Pounds per Hour [a]																																
Maximum Pounds per Month																																
Month with Maximum																																
Maximum Pounds per Year																																
Maximum Average Pounds per Hour [b]																																
Year with Maximum																																
Tons per Year																																

Table 5.1A.29R Offsite Construction Exhaust a

Offsite CO_2 Emissions

Construction Step	CO_2 Emissions by Month																															
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	82.35	82.35	97.20	97.49	97.49	93.44	103.59	102.45	102.31	87.20	81.97	84.58	75.44	61.20	33.63	33.34	32.76	29.27	28.36	14.12												
Total (lbs/day)	3.58	3.58	4.23	4.24	4.24	4.06	4.50	4.45	4.45	3.79	3.56	3.68	3.28	2.66	1.46	1.45	1.42	1.27	1.23	0.61												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									28.46	38.60	38.60	38.60	45.30	45.30	56.38	56.38	64.65	64.65	72.91	72.91	81.18	81.18	81.18	81.18	81.18	81.18	81.18	57.69	57.69	51.00	42.74	35.71	33.39
Total (lbs/day)									1.24	1.68	1.68	1.68	1.97	1.97	2.45	2.45	2.81	2.81	3.17	3.17	3.53	3.53	3.53	3.53	3.53	3.53	2.51	2.51	2.22	1.86	1.55	1.45
Total Offsite CO_2 Emissions (Construction Vehicles)																																
Metric Tons per Month	**82.35**	**82.35**	**97.20**	**97.49**	**97.49**	**93.44**	**103.59**	**102.45**	**130.77**	**125.80**	**120.57**	**123.19**	**120.73**	**106.49**	**90.01**	**89.72**	**97.40**	**93.92**	**101.28**	**87.03**	**81.18**	**81.18**	**81.18**	**81.18**	**81.18**	**81.18**	**57.69**	**57.69**	**51.00**	**42.74**	**35.71**	**33.39**
Metric Tons per Day	**3.58**	**3.58**	**4.23**	**4.24**	**4.24**	**4.06**	**4.50**	**4.45**	**5.69**	**5.47**	**5.24**	**5.36**	**5.25**	**4.63**	**3.91**	**3.90**	**4.23**	**4.08**	**4.40**	**3.78**	**3.53**	**3.53**	**3.53**	**3.53**	**3.53**	**3.53**	**2.51**	**2.51**	**2.22**	**1.86**	**1.55**	**1.45**
Yearly Maximums	**1,257**	**1,295**	**1,319**	**1,312**	**1,304**	**1,304**	**1,305**	**1,302**	**1,287**	**1,237**	**1,193**	**1,153**	**1,111**	**1,072**	**1,046**	**1,014**	**982**	**936**	**884**	**819**	**765**											
Maximum Metric Tons per Day																																
Maximum Metric Tons per Hour [a]																																
Maximum Metric Tons per Month																																
Month with Maximum																																
Maximum Metric Tons per Year																																
Maximum Average Metric Tons per Hour [b]																																
Year with Maximum																																

Offsite N_2O Emissions

Construction Step	N_2O Emissions by Month																															
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	0.0006122	0.0006122	0.0007494	0.0007519	0.0007519	0.0007309	0.0008030	0.0008063	0.0008116	0.0006851	0.0006412	0.0006632	0.0005930	0.0004737	0.0002703	0.0002679	0.0002630	0.0002338	0.0002249	0.0001056												
Total (lbs/day)	0.0000266	0.0000266	0.0000326	0.0000327	0.0000327	0.0000318	0.0000349	0.0000351	0.0000353	0.0000298	0.0000279	0.0000288	0.0000258	0.0000206	0.0000118	0.0000116	0.0000114	0.0000102	0.0000098	0.0000046												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									0.0001166	0.0002018	0.0002018	0.0002018	0.0002709	0.0002709	0.0003434	0.0003434	0.0003717	0.0003717	0.0004000	0.0004000	0.0004282	0.0004282	0.0004282	0.0004282	0.0004282	0.0004282	0.0003133	0.0003133	0.0002442	0.0002159	0.0001775	0.0001647
Total (lbs/day)									0.0000051	0.0000088	0.0000088	0.0000088	0.0000118	0.0000118	0.0000149	0.0000149	0.0000162	0.0000162	0.0000174	0.0000174	0.0000186	0.0000186	0.0000186	0.0000186	0.0000186	0.0000186	0.0000136	0.0000136	0.0000106	0.0000094	0.0000077	0.0000072
Total Offsite N_2O Emissions (Construction Vehicles)																																
Metric Tons per Month	**0.0006**	**0.0006**	**0.0007**	**0.0008**	**0.0008**	**0.0007**	**0.0008**	**0.0008**	**0.0009**	**0.0009**	**0.0008**	**0.0009**	**0.0009**	**0.0007**	**0.0006**	**0.0006**	**0.0006**	**0.0006**	**0.0006**	**0.0005**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0004**	**0.0003**	**0.0003**	**0.0002**	**0.0002**	**0.0002**	**0.0002**
Metric Tons per Day	**0.000027**	**0.000027**	**0.000033**	**0.000033**	**0.000033**	**0.000032**	**0.000035**	**0.000035**	**0.000040**	**0.000039**	**0.000037**	**0.000038**	**0.000038**	**0.000032**	**0.000027**	**0.000027**	**0.000028**	**0.000026**	**0.000027**	**0.000022**	**0.000019**	**0.000019**	**0.000019**	**0.000019**	**0.000019**	**0.000019**	**0.000014**	**0.000014**	**0.000011**	**0.000009**	**0.000008**	**0.000007**
Yearly Maximums	**0.0093**	**0.0096**	**0.0097**	**0.0096**	**0.0094**	**0.0093**	**0.0092**	**0.0090**	**0.0087**	**0.0082**	**0.0078**	**0.0074**	**0.0069**	**0.0065**	**0.0062**	**0.0059**	**0.0056**	**0.0052**	**0.0048**	**0.0043**	**0.0040**											
Maximum Metric Tons per Day																																
Maximum Metric Tons per Hour [a]																																
Maximum Metric Tons per Month																																
Month with Maximum																																
Maximum Metric Tons per Year																																
Maximum Average Metric Tons per Hour [b]																																
Year with Maximum																																

Offsite CH_4 Emissions

Construction Step	CH_4 Emissions by Month																															
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																																
Total (lbs/month)																																
Total (lbs/day)																																
Power Block Construction																																
Total (lbs/month)	0.002746	0.002746	0.003439	0.003450	0.003450	0.003383	0.003696	0.003745	0.003787	0.003179	0.002968	0.003074	0.002753	0.002180	0.001271	0.001260	0.001236	0.001096	0.001050	0.000477												
Total (lbs/day)	0.000119	0.000119	0.000150	0.000150	0.000150	0.000147	0.000161	0.000163	0.000165	0.000138	0.000129	0.000134	0.000120	0.000095	0.000055	0.000055	0.000054	0.000048	0.000046	0.000021												
Demolition of Units 5&6 and 7&8																																
Total (lbs/month)									0.000251	0.000661	0.000661	0.000661	0.001026	0.001026	0.001322	0.001322	0.001352	0.001352	0.001382	0.001382	0.001412	0.001412	0.001412	0.001412	0.001412	0.001412	0.001071	0.001071	0.000706	0.000676	0.000544	0.000494
Total (lbs/day)									0.000011	0.000029	0.000029	0.000029	0.000045	0.000045	0.000057	0.000057	0.000059	0.000059	0.000060	0.000060	0.000061	0.000061	0.000061	0.000061	0.000061	0.000061	0.000047	0.000047	0.000031	0.000029	0.000024	0.000021
Total Offsite CH_4 Emissions (Construction Vehicles)																																
Metric Tons per Month	**0.00275**	**0.00275**	**0.00344**	**0.00345**	**0.00345**	**0.00338**	**0.00370**	**0.00375**	**0.00404**	**0.00384**	**0.00363**	**0.00373**	**0.00378**	**0.00321**	**0.00259**	**0.00258**	**0.00259**	**0.00245**	**0.00243**	**0.00186**	**0.00141**	**0.00141**	**0.00141**	**0.00141**	**0.00141**	**0.00141**	**0.00107**	**0.00107**	**0.00071**	**0.00068**	**0.00054**	**0.00049**
Metric Tons per Day	**0.00012**	**0.00012**	**0.00015**	**0.00015**	**0.00015**	**0.00015**	**0.00016**	**0.00016**	**0.00018**	**0.00017**	**0.00016**	**0.00016**	**0.00016**	**0.00014**	**0.00011**	**0.00011**	**0.00011**	**0.00011**	**0.00011**	**0.00008**	**0.00006**	**0.00006**	**0.00006**	**0.00006**	**0.00006**	**0.00006**	**0.00005**	**0.00005**	**0.00003**	**0.00003**	**0.00002**	**0.00002**
Yearly Maximums	**0.0419**	**0.0429**	**0.0434**	**0.0425**	**0.0417**	**0.0408**	**0.0399**	**0.0386**	**0.0367**	**0.0341**	**0.0317**	**0.0295**	**0.0271**	**0.0248**	**0.0230**	**0.0214**	**0.0199**	**0.0181**	**0.0163**	**0.0144**	**0.0130**											
Maximum Metric Tons per Day																																
Maximum Metric Tons per Hour [a]																																
Maximum Metric Tons per Month																																
Month with Maximum																																
Maximum Metric Tons per Year																																
Maximum Average Metric Tons per Hour [b]																																
Year with Maximum																																

Notes:

[a] The hours per day are per 'Manpower_Schedule_Redondo_Beach

[b] The hours per year are assumed to allow operation 24 hours per d
'Manpower_Schedule_Redondo_Beach 10.31.12.xls':

[c] There are no offsite activities generating fugitive dust during Demo

Redondo Beach Energy Project
Construction Emission Estimates - Total Construction
December 2013

Table 5.1A.30R Onsite and Offsite Construction Exhaust and Fugitive Emissions Summary

Onsite and Offsite CO Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	CO Em 30
Demolition of Units 1-4																														
Total (lbs/month)	889	908	1,028	1,116	1,149	1,154	1,018	1,008	1,069	1,090	1,068	1,045																		
Total (lbs/day)	38.6	39.5	44.7	48.5	49.9	50.2	44.2	43.8	46.5	47.4	46.4	45.4																		
Power Block Construction																														
Total (lbs/month)															1,167	1,196	1,237	1,132	1,247	1,128	1,231	1,275	1,334	1,296	1,356	1,473	1,584	1,472	1,471	1,471
Total (lbs/day)															51	52	54	49	54	49	54	55	58	56	59	64	69	64	64	64
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite CO Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**889**	**908**	**1,028**	**1,116**	**1,149**	**1,154**	**1,018**	**1,008**	**1,069**	**1,090**	**1,068**	**1,045**	**0**	**0**	**1,167**	**1,196**	**1,237**	**1,132**	**1,247**	**1,128**	**1,231**	**1,275**	**1,334**	**1,296**	**1,356**	**1,473**	**1,584**	**1,472**	**1,471**	**1,471**
Pounds per Day	**38.6**	**39.5**	**44.7**	**48.5**	**49.9**	**50.2**	**44.2**	**43.8**	**46.5**	**47.4**	**46.4**	**45.4**	**0.0**	**0.0**	**50.7**	**52.0**	**53.8**	**49.2**	**54.2**	**49.0**	**53.5**	**55.5**	**58.0**	**56.3**	**59.0**	**64.1**	**68.9**	**64.0**	**64.0**	**64.0**
Yearly Maximums	**12,542**	**11,653**	**10,745**	**10,884**	**10,963**	**11,052**	**11,030**	**11,259**	**11,378**	**11,541**	**11,726**	**11,992**	**12,243**	**13,599**	**15,072**	**15,489**	**15,766**	**16,000**	**16,339**	**16,461**	**16,704**	**16,662**	**16,596**	**16,529**	**16,471**	**16,910**	**17,186**	**17,357**	**17,657**	**17,873**

Maximum Pounds per Day	**78.04**
Maximum Pounds per Hour [a]	**7.80**
Maximum Pounds per Month	**1,795**
Month with Maximum	**37**
Maximum Pounds per Year	**19,104**
Maximum Average Pounds per Hour [b]	**2.18**
Year with Maximum	**Months 37-48**
Tons per Year	**9.55**

Onsite and Offsite VOC Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	VOC Em 30
Demolition of Units 1-4																														
Total (lbs/month)	153	155	169	180	186	184	162	161	171	181	177	176																		
Total (lbs/day)	6.64	6.74	7.34	7.84	8.07	8.01	7.04	6.98	7.43	7.86	7.71	7.64																		
Power Block Construction																														
Total (lbs/month)															199	200	201	186	200	166	191	191	204	195	208	219	221	199	199	199
Total (lbs/day)															8.65	8.71	8.75	8.09	8.69	7.22	8.30	8.32	8.88	8.48	9.02	9.50	9.60	8.65	8.64	8.64
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite VOC Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**152.61**	**155.10**	**168.71**	**180.24**	**185.60**	**184.18**	**161.81**	**160.57**	**170.97**	**180.70**	**177.28**	**175.73**	**0.00**	**0.00**	**198.85**	**200.38**	**201.34**	**186.01**	**199.80**	**166.16**	**190.86**	**191.46**	**204.34**	**195.04**	**207.53**	**218.59**	**220.87**	**198.98**	**198.72**	**198.72**
Pounds per Day	**6.64**	**6.74**	**7.34**	**7.84**	**8.07**	**8.01**	**7.04**	**6.98**	**7.43**	**7.86**	**7.71**	**7.64**	**0.00**	**0.00**	**8.65**	**8.71**	**8.75**	**8.09**	**8.69**	**7.22**	**8.30**	**8.32**	**8.88**	**8.48**	**9.02**	**9.50**	**9.60**	**8.65**	**8.64**	**8.64**
Yearly Maximums	**2,053**	**1,901**	**1,746**	**1,776**	**1,796**	**1,812**	**1,814**	**1,852**	**1,857**	**1,877**	**1,888**	**1,915**	**1,934**	**2,142**	**2,360**	**2,382**	**2,381**	**2,378**	**2,391**	**2,353**	**2,349**	**2,290**	**2,235**	**2,169**	**2,106**	**2,114**	**2,109**	**2,109**	**2,131**	**2,140**

Maximum Pounds per Day	**9.60**
Maximum Pounds per Hour [a]	**0.96**
Maximum Pounds per Month	**221**
Month with Maximum	**27**
Maximum Pounds per Year	**2,485**
Maximum Average Pounds per Hour [b]	**0.28**
Year with Maximum	**Months 37-48**
Tons per Year	**1.24**

Onsite and Offsite NOx Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	NOx Em 30
Demolition of Units 1-4																														
Total (lbs/month)	1,728	1,791	1,920	2,006	2,146	2,101	1,928	1,896	1,964	2,034	1,945	1,912																		
Total (lbs/day)	75.1	77.9	83.5	87.2	93.3	91.3	83.8	82.5	85.4	88.4	84.6	83.1																		
Power Block Construction																														
Total (lbs/month)															2,078	2,106	2,113	1,960	2,120	1,753	2,054	2,056	2,218	2,166	2,004	2,063	2,073	1,884	1,878	1,878
Total (lbs/day)															90	92	92	85	92	76	89	89	96	94	87	90	90	82	82	82
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite NOx Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**1,728**	**1,791**	**1,920**	**2,006**	**2,146**	**2,101**	**1,928**	**1,896**	**1,964**	**2,034**	**1,945**	**1,912**	**0**	**0**	**2,078**	**2,106**	**2,113**	**1,960**	**2,120**	**1,753**	**2,054**	**2,056**	**2,218**	**2,166**	**2,004**	**2,063**	**2,073**	**1,884**	**1,878**	**1,878**
Pounds per Day	**75.13**	**77.85**	**83.49**	**87.21**	**93.30**	**91.34**	**83.81**	**82.45**	**85.40**	**88.45**	**84.57**	**83.15**	**0.00**	**0.00**	**90.33**	**91.56**	**91.86**	**85.20**	**92.19**	**76.23**	**89.29**	**89.40**	**96.43**	**94.19**	**87.14**	**89.68**	**90.14**	**81.92**	**81.66**	**81.66**
Yearly Maximums	**23,371**	**21,643**	**19,852**	**20,010**	**20,110**	**20,077**	**19,936**	**20,129**	**19,986**	**20,075**	**20,097**	**20,370**	**20,624**	**22,628**	**24,691**	**24,687**	**24,465**	**24,230**	**24,149**	**23,531**	**23,279**	**22,414**	**21,573**	**20,590**	**19,601**	**19,658**	**19,653**	**19,682**	**19,902**	**20,022**

Maximum Pounds per Day	**96.43**
Maximum Pounds per Hour [a]	**9.64**
Maximum Pounds per Month	**2,218**
Month with Maximum	**23**
Maximum Pounds per Year	**24,691**
Maximum Average Pounds per Hour [b]	**2.82**
Year with Maximum	**Months 15-26**
Tons per Year	**12.35**

Table 5.1A.30R Onsite and Offsite Construction Exhaust and Fugitive Emissions Summary

Onsite and Offsite SOx Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	SOx Em 30
Demolition of Units 1-4																														
Total (lbs/month)	2.2850	2.4857	2.8452	3.0194	3.4407	3.3448	3.0892	2.9888	3.0521	3.0249	2.7535	2.6167																		
Total (lbs/day)	0.0993	0.1081	0.1237	0.1313	0.1496	0.1454	0.1343	0.1299	0.1327	0.1315	0.1197	0.1138																		
Power Block Construction																														
Total (lbs/month)															2.21	2.37	2.50	2.39	2.71	2.55	2.79	2.93	3.10	3.10	3.25	3.49	3.82	3.69	3.67	3.67
Total (lbs/day)															0.10	0.10	0.11	0.10	0.12	0.11	0.12	0.13	0.13	0.13	0.14	0.15	0.17	0.16	0.16	0.16
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite SOx Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**0.10**	**0.11**	**0.12**	**0.13**	**0.15**	**0.15**	**0.13**	**0.13**	**0.13**	**0.13**	**0.12**	**0.11**	**0.00**	**0.00**	**2.21**	**2.37**	**2.50**	**2.39**	**2.71**	**2.55**	**2.79**	**2.93**	**3.10**	**3.10**	**3.25**	**3.49**	**3.82**	**3.69**	**3.67**	**3.67**
Pounds per Day	**0.10**	**0.11**	**0.12**	**0.13**	**0.15**	**0.15**	**0.13**	**0.13**	**0.13**	**0.13**	**0.12**	**0.11**	**0.00**	**0.00**	**0.10**	**0.10**	**0.11**	**0.10**	**0.12**	**0.11**	**0.12**	**0.13**	**0.13**	**0.13**	**0.14**	**0.15**	**0.17**	**0.16**	**0.16**	**0.16**
Yearly Maximums	**1.52**	**1.42**	**1.31**	**3.40**	**5.64**	**7.99**	**10.23**	**12.81**	**15.23**	**17.89**	**20.69**	**23.67**	**26.65**	**29.90**	**33.39**	**35.00**	**36.32**	**37.49**	**38.76**	**39.64**	**40.69**	**41.13**	**41.41**	**41.72**	**41.96**	**43.84**	**45.37**	**46.51**	**47.84**	**49.04**

Maximum Pounds per Day	**0.22**
Maximum Pounds per Hour [a]	**0.02**
Maximum Pounds per Month	**5.12**
Month with Maximum	**37**
Maximum Pounds per Year	**55.20**
Maximum Average Pounds per Hour [b]	**0.006**
Year with Maximum	**Months 37-48**
Tons per Year	**0.028**

Onsite and Offsite Exhaust PM_{10} Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Exhaust PM 30
Demolition of Units 1-4																														
Total (lbs/month)	118	126	148	159	175	173	160	156	160	155	144	136																		
Total (lbs/day)	5.13	5.50	6.41	6.89	7.61	7.54	6.96	6.77	6.94	6.73	6.25	5.93																		
Power Block Construction																														
Total (lbs/month)															127.3	136.5	147.1	142.9	166.1	149.9	163.6	175.0	184.4	184.8	177.1	196.1	224.1	213.7	213.0	213.0
Total (lbs/day)															5.5	5.9	6.4	6.2	7.2	6.5	7.1	7.6	8.0	8.0	7.7	8.5	9.7	9.3	9.3	9.3
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite Exhaust PM_{10} Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	**117.99**	**126.49**	**147.52**	**158.54**	**175.09**	**173.37**	**160.04**	**155.79**	**159.51**	**154.69**	**143.81**	**136.46**	**0.00**	**0.00**	**127.32**	**136.49**	**147.08**	**142.90**	**166.06**	**149.86**	**163.64**	**175.00**	**184.42**	**184.81**	**177.06**	**196.11**	**224.14**	**213.73**	**212.99**	**212.99**
Pounds per Day	**5.13**	**5.50**	**6.41**	**6.89**	**7.61**	**7.54**	**6.96**	**6.77**	**6.94**	**6.73**	**6.25**	**5.93**	**0.00**	**0.00**	**5.54**	**5.93**	**6.39**	**6.21**	**7.22**	**6.52**	**7.11**	**7.61**	**8.02**	**8.04**	**7.70**	**8.53**	**9.75**	**9.29**	**9.26**	**9.26**
Yearly Maximums	**1,809**	**1,691**	**1,565**	**1,545**	**1,523**	**1,495**	**1,464**	**1,470**	**1,464**	**1,468**	**1,489**	**1,529**	**1,578**	**1,755**	**1,951**	**2,048**	**2,125**	**2,191**	**2,261**	**2,319**	**2,394**	**2,442**	**2,476**	**2,516**	**2,554**	**2,647**	**2,713**	**2,745**	**2,791**	**2,832**

Maximum Pounds per Day	**11.75**
Maximum Pounds per Hour [a]	**1.18**
Maximum Pounds per Month	**270.32**
Month with Maximum	**37**
Maximum Pounds per Year	**2,853**
Maximum Average Pounds per Hour [b]	**0.33**
Year with Maximum	**Months 31-42**
Tons per Year	**1.43**

Onsite and Offsite Fugitive PM_{10} Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Fugitive PM 30
Demolition of Units 1-4																														
Total (lbs/month)	208	208	208	208	208	208	208	208	208	208	208	208																		
Total (lbs/day)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0																		
Power Block Construction																														
Total (lbs/month)															408	408	408	408	408	301	301	263	263	263	263	263	263	263	263	263
Total (lbs/day)															17.73	17.73	17.73	17.73	17.73	13.11	13.11	11.42	11.42	11.42	11.42	11.42	11.42	11.42	11.42	11.42
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite Fugitive PM_{10} Emissions (Dismemberment, Debris Loading, Grading, Bulldozing, and Onsite Construction Vehicles)																														
Pounds per Month	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**208**	**0**	**0**	**408**	**408**	**408**	**408**	**408**	**301**	**301**	**263**	**263**	**263**	**263**	**263**	**263**	**263**	**263**	**263**
Pounds per Day	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**9.05**	**0.00**	**0.00**	**17.73**	**17.73**	**17.73**	**17.73**	**17.73**	**13.11**	**13.11**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**	**11.42**
Yearly Maximums	**2,497**	**2,289**	**2,081**	**2,281**	**2,481**	**2,680**	**2,880**	**3,080**	**3,173**	**3,266**	**3,321**	**3,375**	**3,430**	**3,692**	**3,955**	**3,810**	**3,664**	**3,519**	**3,374**	**3,229**	**3,170**	**3,044**	**2,956**	**2,869**	**2,781**	**2,785**	**2,790**	**2,794**	**2,798**	**2,803**

Maximum Pounds per Day	**17.73**
Maximum Pounds per Hour [a]	**1.77**
Maximum Pounds per Month	**408**
Month with Maximum	**15, 16, 17, 18 or 19**
Maximum Pounds per Year	**4,719**
Maximum Average Pounds per Hour [b]	**0.54**
Year with Maximum	**Months 43 - 54**
Tons per Year	**2.36**

Table 5.1A.30R Onsite and Offsite Construction Exhaust and Fugitive Emissions Summary

Total Onsite and Offsite PM_{10} Emissions (Exhaust and Fugitive)

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total PM_{10} 30
Pounds per Month	326	335	356	367	383	381	368	364	368	363	352	345	0	0	535	544	555	551	574	451	465	438	447	447	440	459	487	476	476	476
Pounds per Day	14.18	14.55	15.46	15.94	16.66	16.59	16.01	15.82	15.98	15.77	15.30	14.98	0.00	0.00	23.27	23.67	24.13	23.95	24.95	19.62	20.22	19.02	19.43	19.45	19.11	19.94	21.16	20.71	20.68	20.68
Yearly Maximums	4,307	3,981	3,646	3,825	4,003	4,175	4,344	4,550	4,637	4,735	4,810	4,905	5,007	5,447	5,906	5,857	5,789	5,710	5,635	5,548	5,565	5,485	5,432	5,385	5,335	5,433	5,502	5,538	5,590	5,635

Maximum Pounds per Day	25.48
Maximum Pounds per Hour [a]	2.55
Maximum Pounds per Month	586
Month with Maximum	45
Maximum Pounds per Year	6,674
Maximum Average Pounds per Hour [b]	0.76
Year with Maximum	Months 43 - 54
Tons per Year	3.34

Onsite and Offsite Exhaust $PM_{2.5}$ Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Exhaust PM 30
Demolition of Units 1-4																														
Total (lbs/month)	82.9	85.9	96.4	103.6	109.8	108.8	96.6	95.1	100.1	103.0	98.9	96.6																		
Total (lbs/day)	3.60	3.74	4.19	4.51	4.77	4.73	4.20	4.13	4.35	4.48	4.30	4.20																		
Power Block Construction																														
Total (lbs/month)															105.4	108.2	111.1	103.6	114.2	97.5	109.7	112.8	119.7	116.1	107.3	115.7	123.3	113.6	113.3	113.3
Total (lbs/day)															4.6	4.7	4.8	4.5	5.0	4.2	4.8	4.9	5.2	5.0	4.7	5.0	5.4	4.9	4.9	4.9
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite Exhaust $PM_{2.5}$ Emissions (Construction Equipment and Vehicles)																														
Pounds per Month	82.9	85.9	96.4	103.6	109.8	108.8	96.6	95.1	100.1	103.0	98.9	96.6	0.0	0.0	105.4	108.2	111.1	103.6	114.2	97.5	109.7	112.8	119.7	116.1	107.3	115.7	123.3	113.6	113.3	113.3
Pounds per Day	3.60	3.74	4.19	4.51	4.77	4.73	4.20	4.13	4.35	4.48	4.30	4.20	0.00	0.00	4.58	4.70	4.83	4.50	4.97	4.24	4.77	4.90	5.21	5.05	4.66	5.03	5.36	4.94	4.93	4.93
Yearly Maximums	1,178	1,095	1,009	1,018	1,022	1,024	1,019	1,036	1,039	1,048	1,058	1,079	1,098	1,206	1,321	1,339	1,345	1,347	1,356	1,347	1,355	1,337	1,317	1,295	1,274	1,297	1,310	1,315	1,331	1,342

Maximum Pounds per Day	5.66
Maximum Pounds per Hour [a]	0.57
Maximum Pounds per Month	130.3
Month with Maximum	37
Maximum Pounds per Year	1,427
Maximum Average Pounds per Hour [b]	0.16
Year with Maximum	Months 37-48
Tons per Year	0.71

Onsite and Offsite Fugitive $PM_{2.5}$ Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Fugitive PM 30
Demolition of Units 1-4																														
Total (lbs/month)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5																		
Total (lbs/day)	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94																		
Power Block Construction																														
Total (lbs/month)															102	102	102	102	102	61	61	57	57	57	57	57	57	57	57	57
Total (lbs/day)															4.41	4.41	4.41	4.41	4.41	2.63	2.63	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite Fugitive $PM_{2.5}$ Emissions (Dismemberment, Debris Loading, Grading, Bulldozing, and Onsite Construction Vehicles)																														
Pounds per Month	22	22	22	22	22	22	22	22	22	22	22	22	0	0	102	102	102	102	102	61	61	57	57	57	57	57	57	57	57	57
Pounds per Day	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.00	0.00	4.41	4.41	4.41	4.41	4.41	2.63	2.63	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46
Yearly Maximums	258	237	215	295	375	455	535	615	654	693	728	763	798	855	912	867	822	777	732	687	681	638	599	560	521	492	463	433	404	375

Maximum Pounds per Day	4.41
Maximum Pounds per Hour [a]	0.44
Maximum Pounds per Month	102
Month with Maximum	15, 16, 17,18, or 19
Maximum Pounds per Year	912
Maximum Average Pounds per Hour [b]	0.10
Year with Maximum	Months 15-26
Tons per Year	0.46

Total Onsite and Offsite $PM_{2.5}$ Emissions (Exhaust and Fugitive)

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total $PM_{2.5}$ 30
Pounds per Month	104	107	118	125	131	130	118	117	122	125	120	118	0	0	207	210	213	205	216	158	170	169	176	173	164	172	180	170	170	170
Pounds per Day	4.54	4.67	5.13	5.44	5.71	5.67	5.13	5.07	5.29	5.41	5.24	5.13	0.00	0.00	8.99	9.12	9.24	8.92	9.38	6.87	7.40	7.37	7.67	7.51	7.13	7.49	7.82	7.40	7.39	7.39
Yearly Maximums	1,436	1,332	1,224	1,313	1,398	1,479	1,554	1,651	1,693	1,741	1,786	1,842	1,897	2,061	2,233	2,206	2,167	2,124	2,089	2,034	2,036	1,975	1,917	1,856	1,795	1,789	1,772	1,748	1,736	1,717

Maximum Pounds per Day	9.38
Maximum Pounds per Hour [a]	0.938
Maximum Pounds per Month	216
Month with Maximum	19
Maximum Pounds per Year	2,233
Maximum Average Pounds per Hour [b]	0.255
Year with Maximum	Months 15-26
Tons per Year	1.12

Table 5.1A.30R Onsite and Offsite Construction Exhaust and Fugitive Emissions Summary

Onsite and Offsite CO_2 Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	CO_2 En 30
Demolition of Units 1-4																														
Total (lbs/month)	149	159	176	184	203	199	188	183	185	184	171	164																		
Total (lbs/day)	6.50	6.91	7.64	7.98	8.85	8.65	8.15	7.95	8.06	7.99	7.43	7.15																		
Power Block Construction																														
Total (lbs/month)															159	167	173	162	180	165	182	188	199	199	209	220	236	226	225	225
Total (lbs/day)															6.92	7.24	7.52	7.02	7.81	7.15	7.90	8.17	8.65	8.67	9.09	9.58	10.27	9.83	9.79	9.79
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite CO_2 Emissions (Construction Equipment and Vehicles)																														
Metric Tons per Month	**149.5**	**158.9**	**175.7**	**183.6**	**203.4**	**199.0**	**187.6**	**182.8**	**185.5**	**183.7**	**171.0**	**164.5**	**0.0**	**0.0**	**159.2**	**166.6**	**172.9**	**161.5**	**179.6**	**164.5**	**181.7**	**188.0**	**198.9**	**199.3**	**209.0**	**220.3**	**236.2**	**226.1**	**225.1**	**225.1**
Metric Tons per Day	**6.50**	**6.91**	**7.64**	**7.98**	**8.85**	**8.65**	**8.15**	**7.95**	**8.06**	**7.99**	**7.43**	**7.15**	**0.00**	**0.00**	**6.92**	**7.24**	**7.52**	**7.02**	**7.81**	**7.15**	**7.90**	**8.17**	**8.65**	**8.67**	**9.09**	**9.58**	**10.27**	**9.83**	**9.79**	**9.79**
Yearly Maximums	**2,145**	**1,996**	**1,837**	**1,820**	**1,803**	**1,773**	**1,735**	**1,727**	**1,709**	**1,705**	**1,710**	**1,737**	**1,772**	**1,981**	**2,202**	**2,279**	**2,338**	**2,390**	**2,454**	**2,485**	**2,531**	**2,532**	**2,526**	**2,519**	**2,508**	**2,605**	**2,687**	**2,752**	**2,829**	**2,898**

Maximum Metric Tons per Day	**13.34**
Maximum Metric Tons per Hour [a]	**1.33**
Maximum Metric Tons per Month	**307**
Month with Maximum	**37**
Maximum Metric Tons per Year	**3,366**
Maximum Average Metric Tons per Hour [b]	**0.38**
Year with Maximum	**Months 37-48**

Onsite and Offsite N_2O Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	N_2O En 30
Demolition of Units 1-4																														
Total (lbs/month)	0.0031	0.0031	0.0033	0.0034	0.0035	0.0035	0.0032	0.0032	0.0033	0.0034	0.0034	0.0033																		
Total (lbs/day)	0.00013	0.00013	0.00014	0.00015	0.00015	0.00015	0.00014	0.00014	0.00015	0.00015	0.00015	0.00015																		
Power Block Construction																														
Total (lbs/month)															0.00385	0.00389	0.00394	0.00359	0.00387	0.00341	0.00381	0.00387	0.00408	0.00400	0.00421	0.00438	0.00451	0.00424	0.00424	0.00424
Total (lbs/day)															0.00017	0.00017	0.00017	0.00016	0.00017	0.00015	0.00017	0.00017	0.00018	0.00017	0.00018	0.00019	0.00020	0.00018	0.00018	0.00018
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite N_2O Emissions (Construction Equipment and Vehicles)																														
Metric Tons per Month	**0.00305**	**0.00309**	**0.00329**	**0.00344**	**0.00351**	**0.00351**	**0.00324**	**0.00323**	**0.00334**	**0.00342**	**0.00337**	**0.00334**	**0.00000**	**0.00000**	**0.00385**	**0.00389**	**0.00394**	**0.00359**	**0.00387**	**0.00341**	**0.00381**	**0.00387**	**0.00408**	**0.00400**	**0.00421**	**0.00438**	**0.00451**	**0.00424**	**0.00424**	**0.00424**
Metric Tons per Day	**0.00013**	**0.00013**	**0.00014**	**0.00015**	**0.00015**	**0.00015**	**0.00014**	**0.00014**	**0.00015**	**0.00015**	**0.00015**	**0.00015**	**0.00000**	**0.00000**	**0.00017**	**0.00017**	**0.00017**	**0.00016**	**0.00017**	**0.00015**	**0.00017**	**0.00017**	**0.00018**	**0.00017**	**0.00018**	**0.00019**	**0.00020**	**0.00018**	**0.00018**	**0.00018**
Yearly Maximums	**0.03984**	**0.03679**	**0.03370**	**0.03426**	**0.03471**	**0.03514**	**0.03522**	**0.03584**	**0.03603**	**0.03650**	**0.03694**	**0.03765**	**0.03831**	**0.04252**	**0.04690**	**0.04756**	**0.04791**	**0.04821**	**0.04886**	**0.04862**	**0.04884**	**0.04794**	**0.04706**	**0.04604**	**0.04501**	**0.04620**	**0.04718**	**0.04810**	**0.04931**	**0.05033**

Maximum Metric Tons per Day	**0.00024**
Maximum Metric Tons per Hour [a]	**0.000024**
Maximum Metric Tons per Month	**0.0055**
Month with Maximum	**40**
Maximum Metric Tons per Year	**0.062**
Maximum Average Metric Tons per Hour [b]	**0.000007**
Year with Maximum	**Months 37-48**

Onsite and Offsite CH_4 Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	CH_4 En 30
Demolition of Units 1-4																														
Total (lbs/month)	0.0071	0.0071	0.0077	0.0081	0.0082	0.0082	0.0077	0.0076	0.0079	0.0079	0.0079	0.0077																		
Total (lbs/day)	0.00031	0.00031	0.00033	0.00035	0.00036	0.00036	0.00033	0.00033	0.00034	0.00035	0.00034	0.00034																		
Power Block Construction																														
Total (lbs/month)															0.00882	0.00897	0.00921	0.00848	0.00928	0.00827	0.00915	0.00940	0.00988	0.00975	0.01024	0.01081	0.01144	0.01084	0.01084	0.01084
Total (lbs/day)															0.00038	0.00039	0.00040	0.00037	0.00040	0.00036	0.00040	0.00041	0.00043	0.00042	0.00045	0.00047	0.00050	0.00047	0.00047	0.00047
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite CH_4 Emissions (Construction Equipment and Vehicles)																														
Metric Tons per Month	**0.00706**	**0.00713**	**0.00768**	**0.00808**	**0.00820**	**0.00825**	**0.00765**	**0.00761**	**0.00788**	**0.00794**	**0.00786**	**0.00775**	**0.00000**	**0.00000**	**0.00882**	**0.00897**	**0.00921**	**0.00848**	**0.00928**	**0.00827**	**0.00915**	**0.00940**	**0.00988**	**0.00975**	**0.01024**	**0.01081**	**0.01144**	**0.01084**	**0.01084**	**0.01084**
Metric Tons per Day	**0.00031**	**0.00031**	**0.00033**	**0.00035**	**0.00036**	**0.00036**	**0.00033**	**0.00033**	**0.00034**	**0.00035**	**0.00034**	**0.00034**	**0.00000**	**0.00000**	**0.00038**	**0.00039**	**0.00040**	**0.00037**	**0.00040**	**0.00036**	**0.00040**	**0.00041**	**0.00043**	**0.00042**	**0.00045**	**0.00047**	**0.00050**	**0.00047**	**0.00047**	**0.00047**
Yearly Maximums	**0.0931**	**0.0860**	**0.0789**	**0.0800**	**0.0809**	**0.0819**	**0.0822**	**0.0838**	**0.0844**	**0.0857**	**0.0872**	**0.0892**	**0.0912**	**0.1014**	**0.1122**	**0.1149**	**0.1167**	**0.1184**	**0.1207**	**0.1213**	**0.1229**	**0.1220**	**0.1211**	**0.1199**	**0.1187**	**0.1225**	**0.1255**	**0.1279**	**0.1310**	**0.1338**

Maximum Metric Tons per Day	**0.000609**
Maximum Metric Tons per Hour [a]	**0.000061**
Maximum Metric Tons per Month	**0.014**
Month with Maximum	**37**
Maximum Metric Tons per Year	**0.154**
Maximum Average Metric Tons per Hour [b]	**0.000018**
Year with Maximum	**Months 37-48**

Notes:
[a] The hours per day are per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 10 hours/day
[b] The hours per year are assumed to allow operation 24 hours per day, 7 days per week despite the actual construction schedule per 'Manpower_Schedule_Redondo_Beach 10.31.12.xls': 8,760 hours/year

Redondo Beach Energy Project
Construction Emission Estimates - Total Construction
December 2013

Table 5.1A.30R Onsite and Offsite Construction E

Onsite and Offsite CO Emissions

Construction Step	Emissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	1,369	1,371	1,189	1,210	1,266	1,239	1,093	986	992	1,010	873	773	440	438	434	409	402	301												
Total (lbs/day)	60	60	52	53	55	54	48	43	43	44	38	34	19	19	19	18	17	13												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							702	763	763	763	815	856	1,039	1,039	1,049	1,049	1,058	1,058	1,152	1,152	1,152	1,152	1,152	1,152	829	829	777	767	745	737
Total (lbs/day)							31	33	33	33	35	37	45	45	46	46	46	46	50	50	50	50	50	50	36	36	34	33	32	32
Total Onsite and Offsite CO Emissions (Construction Equipment ar																														
Pounds per Month	**1,369**	**1,371**	**1,189**	**1,210**	**1,266**	**1,239**	**1,795**	**1,749**	**1,755**	**1,773**	**1,687**	**1,629**	**1,479**	**1,477**	**1,482**	**1,458**	**1,460**	**1,360**	**1,152**	**1,152**	**1,152**	**1,152**	**1,152**	**1,152**	**829**	**829**	**777**	**767**	**745**	**737**
Pounds per Day	**59.5**	**59.6**	**51.7**	**52.6**	**55.1**	**53.9**	**78.0**	**76.0**	**76.3**	**77.1**	**73.4**	**70.8**	**64.3**	**64.2**	**64.5**	**63.4**	**63.5**	**59.1**	**50.1**	**50.1**	**50.1**	**50.1**	**50.1**	**50.1**	**36.0**	**36.0**	**33.8**	**33.4**	**32.4**	**32.0**
Yearly Maximums	**18,031**	**18,141**	**18,247**	**18,541**	**18,789**	**18,983**	**19,104**	**18,460**	**17,863**	**17,260**	**16,639**	**16,103**	**15,625**	**14,975**	**14,327**	**13,622**	**12,931**	**12,217**	**11,595**											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite VOC Emissions

Construction Step	Emissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	162	162	132	136	138	132	105	102	109	109	95	93	52	52	52	51	51	49												
Total (lbs/day)	7.04	7.04	5.74	5.93	6.01	5.75	4.55	4.45	4.72	4.74	4.15	4.06	2.26	2.26	2.26	2.23	2.23	2.14												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							111	112	112	112	112	121	145	145	147	147	150	150	167	167	167	167	167	167	115	115	115	113	111	111
Total (lbs/day)							4.81	4.86	4.86	4.86	4.87	5.27	6.32	6.32	6.41	6.41	6.50	6.50	7.25	7.25	7.25	7.25	7.25	7.25	5.01	5.01	5.00	4.91	4.85	4.83
Total Onsite and Offsite VOC Emissions (Construction Equipment a																														
Pounds per Month	**161.97**	**161.86**	**131.94**	**136.47**	**138.24**	**132.33**	**215.25**	**214.13**	**220.39**	**220.77**	**207.52**	**214.69**	**197.33**	**197.29**	**199.34**	**198.84**	**200.89**	**198.84**	**166.75**	**166.75**	**166.75**	**166.75**	**166.75**	**166.75**	**115.27**	**115.27**	**114.98**	**112.83**	**111.46**	**111.02**
Pounds per Day	**7.04**	**7.04**	**5.74**	**5.93**	**6.01**	**5.75**	**9.36**	**9.31**	**9.58**	**9.60**	**9.02**	**9.33**	**8.58**	**8.58**	**8.67**	**8.65**	**8.73**	**8.65**	**7.25**	**7.25**	**7.25**	**7.25**	**7.25**	**7.25**	**5.01**	**5.01**	**5.00**	**4.91**	**4.85**	**4.83**
Yearly Maximums	**2,156**	**2,191**	**2,226**	**2,294**	**2,356**	**2,419**	**2,485**	**2,437**	**2,389**	**2,336**	**2,282**	**2,241**	**2,193**	**2,111**	**2,029**	**1,945**	**1,859**	**1,769**	**1,681**											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite NOx Emissions

Construction Step	Emissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	1,502	1,502	1,188	1,215	1,236	1,177	848	839	884	885	789	780	415	415	414	412	413	405												
Total (lbs/day)	65	65	52	53	54	51	37	36	38	38	34	34	18	18	18	18	18	18												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							1,213	1,219	1,219	1,219	1,210	1,320	1,544	1,544	1,590	1,590	1,636	1,636	1,626	1,626	1,626	1,626	1,626	1,626	1,142	1,142	1,149	1,110	1,089	1,083
Total (lbs/day)							53	53	53	53	53	57	67	67	69	69	71	71	71	71	71	71	71	71	50	50	50	48	47	47
Total Onsite and Offsite NOx Emissions (Construction Equipment a																														
Pounds per Month	**1,502**	**1,502**	**1,188**	**1,215**	**1,236**	**1,177**	**2,061**	**2,058**	**2,103**	**2,104**	**1,998**	**2,100**	**1,959**	**1,959**	**2,005**	**2,003**	**2,049**	**2,041**	**1,626**	**1,626**	**1,626**	**1,626**	**1,626**	**1,626**	**1,142**	**1,142**	**1,149**	**1,110**	**1,089**	**1,083**
Pounds per Day	**65.32**	**65.29**	**51.66**	**52.83**	**53.72**	**51.19**	**89.60**	**89.47**	**91.42**	**91.48**	**86.88**	**91.30**	**85.18**	**85.18**	**87.16**	**87.07**	**89.10**	**88.74**	**70.70**	**70.70**	**70.70**	**70.70**	**70.70**	**70.70**	**49.66**	**49.66**	**49.97**	**48.28**	**47.36**	**47.08**
Yearly Maximums	**20,244**	**20,701**	**21,158**	**21,975**	**22,762**	**23,576**	**24,439**	**24,005**	**23,573**	**23,096**	**22,618**	**22,246**	**21,772**	**20,955**	**20,138**	**19,283**	**18,390**	**17,431**	**16,472**											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Redondo Beach Energy Project
Construction Emission Estimates - Total Construction
December 2013

Table 5.1A.30R Onsite and Offsite Construction E

Onsite and Offsite SOx Emissions

Construction Step	nissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	3.59	3.59	3.24	3.20	3.41	3.34	3.02	2.71	2.65	2.70	2.41	2.12	1.14	1.13	1.12	1.05	1.03	0.73												
Total (lbs/day)	0.16	0.16	0.14	0.14	0.15	0.15	0.13	0.12	0.12	0.12	0.10	0.09	0.05	0.05	0.05	0.05	0.04	0.03												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							2.10	2.31	2.31	2.31	2.45	2.56	3.05	3.05	3.22	3.22	3.40	3.40	3.77	3.77	3.77	3.77	3.77	3.77	2.71	2.71	2.58	2.40	2.25	2.20
Total (lbs/day)							0.09	0.10	0.10	0.10	0.11	0.11	0.13	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.12	0.12	0.11	0.10	0.10	0.10
Total Onsite and Offsite SOx Emissions (Construction Equipment a																														
Pounds per Month	**3.59**	**3.59**	**3.24**	**3.20**	**3.41**	**3.34**	**5.12**	**5.02**	**4.96**	**5.02**	**4.86**	**4.67**	**4.19**	**4.18**	**4.34**	**4.27**	**4.43**	**4.13**	**3.77**	**3.77**	**3.77**	**3.77**	**3.77**	**3.77**	**2.71**	**2.71**	**2.58**	**2.40**	**2.25**	**2.20**
Pounds per Day	**0.16**	**0.16**	**0.14**	**0.14**	**0.15**	**0.15**	**0.22**	**0.22**	**0.22**	**0.22**	**0.21**	**0.20**	**0.18**	**0.18**	**0.19**	**0.19**	**0.19**	**0.18**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.12**	**0.12**	**0.11**	**0.10**	**0.10**	**0.10**
Yearly Maximums	**50.04**	**50.64**	**51.23**	**52.33**	**53.40**	**54.42**	**55.20**	**53.84**	**52.59**	**51.39**	**50.14**	**49.04**	**48.14**	**46.66**	**45.20**	**43.43**	**41.56**	**39.38**	**37.46**											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite Exhaust PM_{10} Emissions

Construction Step	$_{10}$ Emissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	224.5	225.0	211.0	209.4	224.8	222.4	206.4	179.5	173.9	178.5	157.4	132.1	75.7	75.2	74.1	67.9	66.0	40.7												
Total (lbs/day)	9.8	9.8	9.2	9.1	9.8	9.7	9.0	7.8	7.6	7.8	6.8	5.7	3.3	3.3	3.2	3.0	2.9	1.8												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							63.9	82.0	82.0	82.0	96.6	101.3	126.2	126.2	128.5	128.5	130.8	130.8	130.7	130.7	130.7	130.7	130.7	130.7	94.1	94.1	79.5	77.2	70.9	68.2
Total (lbs/day)							2.8	3.6	3.6	3.6	4.2	4.4	5.5	5.5	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	4.1	4.1	3.5	3.4	3.1	3.0
Total Onsite and Offsite Exhaust PM_{10} Emissions (Construction Eq																														
Pounds per Month	**224.49**	**224.99**	**210.95**	**209.40**	**224.81**	**222.44**	**270.32**	**261.53**	**255.86**	**260.51**	**254.05**	**233.36**	**201.83**	**201.31**	**202.60**	**196.40**	**196.85**	**171.50**	**130.74**	**130.74**	**130.74**	**130.74**	**130.74**	**130.74**	**94.11**	**94.11**	**79.49**	**77.23**	**70.93**	**68.22**
Pounds per Day	**9.76**	**9.78**	**9.17**	**9.10**	**9.77**	**9.67**	**11.75**	**11.37**	**11.12**	**11.33**	**11.05**	**10.15**	**8.78**	**8.75**	**8.81**	**8.54**	**8.56**	**7.46**	**5.68**	**5.68**	**5.68**	**5.68**	**5.68**	**5.68**	**4.09**	**4.09**	**3.46**	**3.36**	**3.08**	**2.97**
Yearly Maximums	**2,853**	**2,830**	**2,806**	**2,798**	**2,785**	**2,757**	**2,706**	**2,567**	**2,436**	**2,311**	**2,181**	**2,058**	**1,955**	**1,847**	**1,740**	**1,617**	**1,498**	**1,372**	**1,269**											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite Fugitive PM_{10} Emissions

Construction Step	$_{10}$ Emissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	263	243	175	175	175	175	97	97	97	97	97	97	58	58	58	58	58	58												
Total (lbs/day)	11.42	10.57	7.61	7.61	7.61	7.61	4.23	4.23	4.23	4.23	4.23	4.23	2.54	2.54	2.54	2.54	2.54	2.54												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							170	170	170	170	170	170	325	325	325	325	325	325	403	403	403	403	403	403	170	170	170	170	170	170
Total (lbs/day)							7.38	7.38	7.38	7.38	7.38	7.38	14.14	14.14	14.14	14.14	14.14	14.14	17.52	17.52	17.52	17.52	17.52	17.52	7.38	7.38	7.38	7.38	7.38	7.38
Total Onsite and Offsite Fugitive PM_{10} Emissions (Dismemberment,																														
Pounds per Month	**263**	**243**	**175**	**175**	**175**	**175**	**267**	**267**	**267**	**267**	**267**	**267**	**384**	**384**	**384**	**384**	**384**	**384**	**403**	**403**	**403**	**403**	**403**	**403**	**170**	**170**	**170**	**170**	**170**	**170**
Pounds per Day	**11.42**	**10.57**	**7.61**	**7.61**	**7.61**	**7.61**	**11.60**	**11.60**	**11.60**	**11.60**	**11.60**	**11.60**	**16.68**	**16.68**	**16.68**	**16.68**	**16.68**	**16.68**	**17.52**	**17.52**	**17.52**	**17.52**	**17.52**	**17.52**	**7.38**	**7.38**	**7.38**	**7.38**	**7.38**	**7.38**
Yearly Maximums	**2,807**	**2,928**	**3,068**	**3,277**	**3,485**	**3,694**	**3,903**	**4,039**	**4,175**	**4,311**	**4,447**	**4,583**	**4,719**	**4,505**	**4,291**	**4,078**	**3,864**	**3,650**	**3,436**											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Redondo Beach Energy Project
Construction Emission Estimates - Total Construction
December 2013

Table 5.1A.30R Onsite and Offsite Construction E

Total Onsite and Offsite PM_{10} Emissions (Exhaust

Parameter	Emissions by Month																												
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Pounds per Month	487	468	386	384	400	397	537	528	523	527	521	500	585	585	586	580	580	555	534	534	534	534	534	534	264	264	249	247	241	238
Pounds per Day	21.18	20.35	16.78	16.71	17.38	17.28	23.36	22.97	22.73	22.93	22.65	21.75	25.45	25.43	25.48	25.21	25.23	24.13	23.21	23.21	23.21	23.21	23.21	23.21	11.47	11.47	10.83	10.74	10.46	10.34
Yearly Maximums	5,660	5,758	5,875	6,075	6,270	6,451	6,609	6,605	6,610	6,621	6,628	6,641	6,674	6,352	6,031	5,694	5,361	5,022	4,705											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite Exhaust $PM_{2.5}$ Emissions

Construction Step	$_{2.5}$ Emissions by Month																												
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	104.8	105.0	92.0	93.4	97.8	95.0	79.0	71.7	72.5	73.8	64.0	57.1	32.9	32.7	32.4	30.7	30.3	23.4												
Total (lbs/day)	4.6	4.6	4.0	4.1	4.3	4.1	3.4	3.1	3.2	3.2	2.8	2.5	1.4	1.4	1.4	1.3	1.3	1.0												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							51.3	56.2	56.2	56.2	60.0	64.3	79.0	79.0	80.3	80.3	81.7	81.7	80.9	80.9	80.9	80.9	80.9	80.9	56.4	56.4	52.6	51.3	49.3	48.5
Total (lbs/day)							2.2	2.4	2.4	2.4	2.6	2.8	3.4	3.4	3.5	3.5	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.5	2.5	2.5	2.3	2.2	2.1	2.1
Total Onsite and Offsite Exhaust $PM_{2.5}$ Emissions (Construction Eq																														
Pounds per Month	104.8	105.0	92.0	93.4	97.8	95.0	130.3	127.9	128.7	130.0	124.0	121.3	111.9	111.7	112.8	111.1	111.9	105.0	80.9	80.9	80.9	80.9	80.9	80.9	56.4	56.4	52.6	51.3	49.3	48.5
Pounds per Day	4.56	4.56	4.00	4.06	4.25	4.13	5.66	5.56	5.60	5.65	5.39	5.28	4.86	4.86	4.90	4.83	4.87	4.57	3.52	3.52	3.52	3.52	3.52	3.52	2.45	2.45	2.28	2.23	2.14	2.11
Yearly Maximums	1,350	1,357	1,364	1,385	1,402	1,416	1,427	1,377	1,330	1,282	1,233	1,190	1,150	1,094	1,039	979	919	856	800											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite Fugitive $PM_{2.5}$ Emissions

Construction Step	$_{2.5}$ Emissions by Month																												
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	57	55	17	17	17	17	10	10	10	10	10	10	6	6	6	6	6	6												
Total (lbs/day)	2.46	2.38	0.76	0.76	0.76	0.76	0.42	0.42	0.42	0.42	0.42	0.42	0.25	0.25	0.25	0.25	0.25	0.25												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							17.7	17.7	17.7	17.7	17.7	17.7	33.2	33.2	33.2	33.2	33.2	33.2	41.0	41.0	41.0	41.0	41.0	41.0	17.7	17.7	17.7	17.7	17.7	17.7
Total (lbs/day)							0.77	0.77	0.77	0.77	0.77	0.77	1.45	1.45	1.45	1.45	1.45	1.45	1.78	1.78	1.78	1.78	1.78	1.78	0.77	0.77	0.77	0.77	0.77	0.77
Total Onsite and Offsite Fugitive $PM_{2.5}$ Emissions (Dismemberment																														
Pounds per Month	57	55	17	17	17	17	27	27	27	27	27	27	39	39	39	39	39	39	41	41	41	41	41	41	18	18	18	18	18	18
Pounds per Day	2.46	2.38	0.76	0.76	0.76	0.76	1.19	1.19	1.19	1.19	1.19	1.19	1.70	1.70	1.70	1.70	1.70	1.70	1.78	1.78	1.78	1.78	1.78	1.78	0.77	0.77	0.77	0.77	0.77	0.77
Yearly Maximums	346	328	313	334	356	377	399	413	426	440	453	467	481	459	438	416	395	374	352											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Total Onsite and Offsite $PM_{2.5}$ Emissions (Exhaust

Parameter	Emissions by Month																												
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Pounds per Month	161	160	110	111	115	112	158	155	156	157	151	149	151	151	152	150	151	144	122	122	122	122	122	122	74	74	70	69	67	66
Pounds per Day	7.02	6.94	4.76	4.82	5.01	4.89	6.86	6.75	6.79	6.84	6.58	6.47	6.56	6.56	6.60	6.53	6.57	6.27	5.30	5.30	5.30	5.30	5.30	5.30	3.22	3.22	3.05	3.00	2.91	2.88
Yearly Maximums	1,696	1,685	1,677	1,719	1,758	1,794	1,825	1,790	1,756	1,722	1,687	1,657	1,630	1,554	1,477	1,395	1,314	1,230	1,152											
Maximum Pounds per Day																														
Maximum Pounds per Hour [a]																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour [b]																														
Year with Maximum																														
Tons per Year																														

Redondo Beach Energy Project
Construction Emission Estimates - Total Construction
December 2013

Table 5.1A.30R Onsite and Offsite Construction E

Onsite and Offsite CO_2 Emissions

Construction Step	hissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	210	211	183	182	192	187	166	151	151	153	136	122	65	64	64	60	59	45												
Total (lbs/day)	9.15	9.16	7.94	7.93	8.37	8.15	7.23	6.57	6.55	6.66	5.93	5.31	2.80	2.79	2.77	2.62	2.58	1.96												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							140	151	151	151	157	165	194	194	202	202	211	211	232	232	232	232	232	232	170	170	163	155	148	145
Total (lbs/day)							6.11	6.55	6.55	6.55	6.84	7.18	8.44	8.44	8.80	8.80	9.16	9.16	10.08	10.08	10.08	10.08	10.08	10.08	7.38	7.38	7.09	6.73	6.42	6.32
Total Onsite and Offsite CO_2 Emissions (Construction Equipment a																														
Metric Tons per Month	**210.4**	**210.7**	**182.5**	**182.3**	**192.4**	**187.5**	**306.7**	**301.8**	**301.2**	**303.8**	**293.6**	**287.1**	**258.7**	**258.4**	**266.1**	**262.6**	**269.9**	**255.7**	**231.9**	**231.9**	**231.9**	**231.9**	**231.9**	**231.9**	**169.7**	**169.7**	**163.0**	**154.8**	**147.7**	**145.4**
Metric Tons per Day	**9.15**	**9.16**	**7.94**	**7.93**	**8.37**	**8.15**	**13.34**	**13.12**	**13.10**	**13.21**	**12.77**	**12.48**	**11.25**	**11.23**	**11.57**	**11.42**	**11.74**	**11.12**	**10.08**	**10.08**	**10.08**	**10.08**	**10.08**	**10.08**	**7.38**	**7.38**	**7.09**	**6.73**	**6.42**	**6.32**
Yearly Maximums	**2,960**	**3,008**	**3,056**	**3,140**	**3,220**	**3,297**	**3,366**	**3,291**	**3,221**	**3,151**	**3,080**	**3,018**	**2,962**	**2,873**	**2,785**	**2,682**	**2,574**	**2,452**	**2,341**											
Maximum Metric Tons per Day																														
Maximum Metric Tons per Hour [a]																														
Maximum Metric Tons per Month																														
Month with Maximum																														
Maximum Metric Tons per Year																														
Maximum Average Metric Tons per Hour [b]																														
Year with Maximum																														

Onsite and Offsite N_2O Emissions

Construction Step	hissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	0.00363	0.00363	0.00291	0.00299	0.00306	0.00297	0.00244	0.00231	0.00238	0.00241	0.00214	0.00202	0.00105	0.00105	0.00105	0.00102	0.00101	0.00089												
Total (lbs/day)	0.00016	0.00016	0.00013	0.00013	0.00013	0.00013	0.00011	0.00010	0.00010	0.00010	0.00009	0.00009	0.00005	0.00005	0.00005	0.00004	0.00004	0.00004												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							0.00296	0.00305	0.00305	0.00305	0.00312	0.00332	0.00384	0.00384	0.00387	0.00387	0.00390	0.00390	0.00425	0.00425	0.00425	0.00425	0.00425	0.00425	0.00316	0.00316	0.00309	0.00306	0.00302	0.00301
Total (lbs/day)							0.00013	0.00013	0.00013	0.00013	0.00014	0.00014	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00018	0.00018	0.00018	0.00018	0.00018	0.00018	0.00014	0.00014	0.00013	0.00013	0.00013	0.00013
Total Onsite and Offsite N_2O Emissions (Construction Equipment a																														
Metric Tons per Month	**0.00363**	**0.00363**	**0.00291**	**0.00299**	**0.00306**	**0.00297**	**0.00540**	**0.00536**	**0.00543**	**0.00546**	**0.00526**	**0.00534**	**0.00489**	**0.00489**	**0.00491**	**0.00489**	**0.00490**	**0.00479**	**0.00425**	**0.00425**	**0.00425**	**0.00425**	**0.00425**	**0.00425**	**0.00316**	**0.00316**	**0.00309**	**0.00306**	**0.00302**	**0.00301**
Metric Tons per Day	**0.00016**	**0.00016**	**0.00013**	**0.00013**	**0.00013**	**0.00013**	**0.00023**	**0.00023**	**0.00024**	**0.00024**	**0.00023**	**0.00023**	**0.00021**	**0.00021**	**0.00021**	**0.00021**	**0.00021**	**0.00021**	**0.00018**	**0.00018**	**0.00018**	**0.00018**	**0.00018**	**0.00018**	**0.00014**	**0.00014**	**0.00013**	**0.00013**	**0.00013**	**0.00013**
Yearly Maximums	**0.05142**	**0.05269**	**0.05395**	**0.05595**	**0.05785**	**0.05970**	**0.06152**	**0.06037**	**0.05926**	**0.05807**	**0.05687**	**0.05586**	**0.05477**	**0.05304**	**0.05131**	**0.04948**	**0.04766**	**0.04578**	**0.04401**											
Maximum Metric Tons per Day																														
Maximum Metric Tons per Hour [a]																														
Maximum Metric Tons per Month																														
Month with Maximum																														
Maximum Metric Tons per Year																														
Maximum Average Metric Tons per Hour [b]																														
Year with Maximum																														

Onsite and Offsite CH_4 Emissions

Construction Step	hissions by Month 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Demolition of Units 1-4																														
Total (lbs/month)																														
Total (lbs/day)																														
Power Block Construction																														
Total (lbs/month)	0.00986	0.00987	0.00827	0.00842	0.00873	0.00856	0.00741	0.00680	0.00686	0.00696	0.00620	0.00563	0.00302	0.00301	0.00298	0.00284	0.00280	0.00222												
Total (lbs/day)	0.00043	0.00043	0.00036	0.00037	0.00038	0.00037	0.00032	0.00030	0.00030	0.00030	0.00027	0.00024	0.00013	0.00013	0.00013	0.00012	0.00012	0.00010												
Demolition of Units 5&6 and 7&8																														
Total (lbs/month)							0.00660	0.00701	0.00701	0.00701	0.00738	0.00782	0.00912	0.00912	0.00915	0.00915	0.00918	0.00918	0.00993	0.00993	0.00993	0.00993	0.00993	0.00993	0.00742	0.00742	0.00706	0.00703	0.00689	0.00684
Total (lbs/day)							0.00029	0.00030	0.00030	0.00030	0.00032	0.00034	0.00040	0.00040	0.00040	0.00040	0.00040	0.00040	0.00043	0.00043	0.00043	0.00043	0.00043	0.00043	0.00032	0.00032	0.00031	0.00031	0.00030	0.00030
Total Onsite and Offsite CH_4 Emissions (Construction Equipment a																														
Metric Tons per Month	**0.00986**	**0.00987**	**0.00827**	**0.00842**	**0.00873**	**0.00856**	**0.01401**	**0.01381**	**0.01387**	**0.01397**	**0.01358**	**0.01345**	**0.01214**	**0.01213**	**0.01213**	**0.01199**	**0.01198**	**0.01140**	**0.00993**	**0.00993**	**0.00993**	**0.00993**	**0.00993**	**0.00993**	**0.00742**	**0.00742**	**0.00706**	**0.00703**	**0.00689**	**0.00684**
Metric Tons per Day	**0.00043**	**0.00043**	**0.00036**	**0.00037**	**0.00038**	**0.00037**	**0.00061**	**0.00060**	**0.00060**	**0.00061**	**0.00059**	**0.00058**	**0.00053**	**0.00053**	**0.00053**	**0.00052**	**0.00052**	**0.00050**	**0.00043**	**0.00043**	**0.00043**	**0.00043**	**0.00043**	**0.00043**	**0.00032**	**0.00032**	**0.00031**	**0.00031**	**0.00030**	**0.00030**
Yearly Maximums	**0.1364**	**0.1387**	**0.1409**	**0.1448**	**0.1484**	**0.1516**	**0.1545**	**0.1504**	**0.1465**	**0.1426**	**0.1385**	**0.1349**	**0.1314**	**0.1267**	**0.1220**	**0.1169**	**0.1119**	**0.1068**	**0.1023**											
Maximum Metric Tons per Day																														
Maximum Metric Tons per Hour [a]																														
Maximum Metric Tons per Month																														
Month with Maximum																														
Maximum Metric Tons per Year																														
Maximum Average Metric Tons per Hour [b]																														
Year with Maximum																														

Notes:

[a] The hours per day are per 'Manpower_Schedule_Redondo_Beach 10.
[b] The hours per year are assumed to allow operation 24 hours per day,
'Manpower_Schedule_Redondo_Beach 10.31.12.xls':

Attachment DR8-2
Supporting Documentation for Impacts Analysis of RBGS Units 5-8 Operation with Demolition of RBGS Units 1-4

Redondo Beach Energy Project
Attachment DR8-2 Table 1
Operational Source Parameters
December 2013

Point Sources

Source ID	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height [a] (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
Unit 5	370938	3746472	4.42	66.5	422	21.8	3.66
Unit 6	370957	3746428	4.42	66.5	422	21.8	3.66
Unit 7	371032	3746350	4.42	65.2	378	20.5	5.18
Unit 8	371052	3746305	4.42	65.2	378	20.5	5.18

[a] Stacks heights for Units 5-8 exceeded the BPIP GEP stack height; therefore, stack heights were set to the GEP maximum height of 65 meters.

Redondo Beach Energy Project
Attachment DR8-2 Table 2
Demolition Source Parameters
December 2013

Area Sources

Source ID	FLAT (Non-Default)	Source Description	Base Elevation (m)	Release Height (m)	Number of Vertices	Initial Vert. Dimension (m)	Easting (X1) (m)	Northing (Y1) (m)	Easting (X2) (m)	Northing (Y2) (m)	Easting (X3) (m)	Northing (Y3) (m)	Easting (X4) (m)	Northing (Y4) (m)
DEMOFUG		Demo 1-4	4.42	0	4	1	370848	3746493	370783	3746639.23	370874.733	3746679.79	370939.634	3746533.55

Point Sources

Source ID	Stack Release Type	Easting (X1) (m)	Northing (Y1) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
DEM01	HORIZONTAL	370855	3746509	4.4196	4.6	533.00	18.00	0.127
DEM02	HORIZONTAL	370844	3746532	4.4196	4.6	533.00	18.00	0.127
DEM03	HORIZONTAL	370834	3746555	4.4196	4.6	533.00	18.00	0.127
DEM04	HORIZONTAL	370824	3746578	4.4196	4.6	533.00	18.00	0.127
DEM05	HORIZONTAL	370814	3746601	4.4196	4.6	533.00	18.00	0.127
DEM06	HORIZONTAL	370804	3746624	4.4196	4.6	533.00	18.00	0.127
DEM07	HORIZONTAL	370877	3746520	4.4196	4.6	533.00	18.00	0.127
DEM08	HORIZONTAL	370867	3746542	4.4196	4.6	533.00	18.00	0.127
DEM09	HORIZONTAL	370857	3746565	4.4196	4.6	533.00	18.00	0.127
DEM10	HORIZONTAL	370847	3746588	4.4196	4.6	533.00	18.00	0.127
DEM11	HORIZONTAL	370837	3746611	4.4196	4.6	533.00	18.00	0.127
DEM12	HORIZONTAL	370827	3746634	4.4196	4.6	533.00	18.00	0.127
DEM13	HORIZONTAL	370900	3746530	4.4196	4.6	533.00	18.00	0.127
DEM14	HORIZONTAL	370890	3746553	4.4196	4.6	533.00	18.00	0.127
DEM15	HORIZONTAL	370880	3746575	4.4196	4.6	533.00	18.00	0.127
DEM16	HORIZONTAL	370870	3746598	4.4196	4.6	533.00	18.00	0.127
DEM17	HORIZONTAL	370860	3746621	4.4196	4.6	533.00	18.00	0.127
DEM18	HORIZONTAL	370850	3746644	4.4196	4.6	533.00	18.00	0.127
DEM19	HORIZONTAL	370923	3746540	4.4196	4.6	533.00	18.00	0.127
DEM20	HORIZONTAL	370913	3746563	4.4196	4.6	533.00	18.00	0.127
DEM21	HORIZONTAL	370903	3746586	4.4196	4.6	533.00	18.00	0.127
DEM22	HORIZONTAL	370893	3746608	4.4196	4.6	533.00	18.00	0.127
DEM23	HORIZONTAL	370883	3746631	4.4196	4.6	533.00	18.00	0.127
DEM24	HORIZONTAL	370872	3746654	4.4196	4.6	533.00	18.00	0.127
DEM25	HORIZONTAL	370878	3746629	4.4196	4.6	533.00	18.00	0.127
DEM26	HORIZONTAL	370868	3746652	4.4196	4.6	533.00	18.00	0.127
DEM27	HORIZONTAL	370941	3746548	4.4196	4.6	533.00	18.00	0.127
DEM28	HORIZONTAL	370931	3746571	4.4196	4.6	533.00	18.00	0.127
DEM29	HORIZONTAL	370921	3746594	4.4196	4.6	533.00	18.00	0.127
DEM30	HORIZONTAL	370911	3746617	4.4196	4.6	533.00	18.00	0.127
DEM31	HORIZONTAL	370901	3746639	4.4196	4.6	533.00	18.00	0.127
DEM32	HORIZONTAL	370891	3746662	4.4196	4.6	533.00	18.00	0.127
DEM33	HORIZONTAL	370896	3746637	4.4196	4.6	533.00	18.00	0.127
DEM34	HORIZONTAL	370886	3746660	4.4196	4.6	533.00	18.00	0.127
DEM35	HORIZONTAL	370960	3746556	4.4196	4.6	533.00	18.00	0.127
DEM36	HORIZONTAL	370950	3746579	4.4196	4.6	533.00	18.00	0.127
DEM37	HORIZONTAL	370939	3746602	4.4196	4.6	533.00	18.00	0.127
DEM38	HORIZONTAL	370929	3746625	4.4196	4.6	533.00	18.00	0.127
DEM39	HORIZONTAL	370919	3746648	4.4196	4.6	533.00	18.00	0.127
DEM40	HORIZONTAL	370909	3746670	4.4196	4.6	533.00	18.00	0.127

Redondo Beach Energy Project
Attachment DR8-2 Table 3
Operation/Demolition Modeled Emission Rates
December 2013

Emission Rates for 1-hour, 3-hour, 8-hour, and 24-hour Modeling

Source ID	1-hour NO_2		1-hour CO		8-hour CO		1-hour SO_2		3-hour SO_2		24-hour SO_2		24-hour PM_{10}		24-hour $PM_{2.5}$	
	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)
Unit 5	0.15	1.20	0.54	4.25	0.54	4.25	0.0049	0.039	0.0049	0.039	0.0049	0.039	0.043	0.34	0.018	0.15
Unit 6	0.074	0.59	1.00	7.95	1.00	7.95	0.0029	0.023	0.0029	0.023	0.0029	0.023	0.029	0.23	0.011	0.089
Unit 7	0.40	3.17	3.60	28.5	3.60	28.5	0.035	0.28	0.035	0.28	0.035	0.28	0.064	0.51	0.066	0.53
Unit 8	0.11	0.91	8.95	71.0	8.95	71.0	0.015	0.12	0.015	0.12	0.015	0.12	0.028	0.22	0.029	0.23
DEMOEXH (01-40) [a]	0.94	7.48	0.48	3.80	0.48	3.80	0.00095	0.0075	0.00095	0.0075	0.00039	0.0031	0.020	0.16	0.018	0.15
DEMOFUG	-	-	-	-	-	-	-	-	-	-	-	-	0.048	0.38	0.0049	0.039

Emission Rates for Annual Modeling

Source ID	Annual NO_2		Annual PM_{10}		Annual $PM_{2.5}$	
	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)
Unit 5	0.15	1.20	0.043	0.34	0.018	0.15
Unit 6	0.074	0.59	0.029	0.23	0.011	0.09
Unit 7	0.40	3.17	0.064	0.51	0.066	0.53
Unit 8	0.11	0.91	0.028	0.22	0.029	0.23
DEMOEXH (01-40) [a]	0.29	2.26	0.014	0.11	0.013	0.10
DEMOFUG	-	-	0.036	0.29	0.0037	0.029

[a] Emission rates for exhaust point sources (DEMOEXH) are presented as the sum total for all sources in the group.

Redondo Beach Energy Project
Attachment DR8-2 Table 4
Operation/Demolition Modeling Results
December 2013

Source	Year	NO_2 ($\mu g/m^3$) [a]			CO ($\mu g/m^3$)		SO_2 ($\mu g/m^3$)			PM_{10} ($\mu g/m^3$)		$PM_{2.5}$ ($\mu g/m^3$)	
		1-hour	Federal 1-hour [b]	Annual	1-hour	8-hour	1-hour	3-hour	24-hour	24-hour	Annual	24-hour	Annual
ALL	2005	113	171	6.33	72.0	57.1	0.143	0.129	0.038	27.1	8.23	3.70	1.20
DEMO		113	92.3	6.32	72.0	57.1	0.143	0.129	0.036	27.1	8.23	3.70	1.19
RBGS		0.52	0.51	0.074	12.8	10.7	0.053	0.051	0.019	0.052	0.022	0.039	0.016
ALL	2006	114	171	6.65	72.0	58.2	0.143	0.135	0.035	26.2	8.93	3.87	1.28
DEMO		114	91.3	6.65	72.0	58.2	0.143	0.135	0.035	26.2	8.93	3.86	1.28
RBGS		0.51	0.49	0.067	12.5	10.1	0.051	0.048	0.018	0.052	0.020	0.039	0.015
ALL	2007	112	170	6.06	71.2	57.1	0.141	0.131	0.032	28.7	7.67	3.91	1.12
DEMO		112	94.4	6.05	71.2	57.1	0.141	0.131	0.029	28.6	7.67	3.90	1.12
RBGS		0.54	0.51	0.069	13.0	11.1	0.054	0.051	0.021	0.060	0.021	0.045	0.015
ALL	2008	113	173	6.09	71.7	58.5	0.142	0.134	0.032	28.9	7.66	4.11	1.12
DEMO		113	95.4	6.08	71.7	58.5	0.142	0.134	0.031	28.9	7.66	4.11	1.12
RBGS		0.53	0.51	0.073	13.0	9.48	0.053	0.052	0.018	0.052	0.022	0.039	0.016
ALL	2009	113	168	6.19	71.5	57.1	0.142	0.132	0.031	28.8	8.23	3.90	1.18
DEMO		113	92.7	6.18	71.5	57.1	0.142	0.132	0.030	28.8	8.22	3.90	1.18
RBGS		0.56	0.50	0.073	13.1	10.0	0.054	0.051	0.017	0.048	0.022	0.036	0.016

[a] The maximum 1-hour and annual NO_2 concentrations include ambient NO_2 ratios of 0.80 and 0.75, respectively.

[b] Total predicted concentration for the Federal 1-hour NO_2 standard (source ALL) is the high 8th high pairing of modeled concentrations with the three-year average of 98th percentile seasonal hourly background concentrations, as provided by the SCAQMD.

Attachment DR10-1
Supporting Documentation for RBEP Commissioning and Operation Impacts Analysis

Redondo Beach Energy Project
Attachment DR10-1 Table 1
Modeling Source Parameters
December 2013

Stack Parameters

Pollutant	Scenario	Source ID	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
NO_2, PM_{10}, $PM_{2.5}$	10	Stack 1	371060	3746515	4.4	42.7	462	16.0	5.49
		Stack 2	371096	3746520	4.4	42.7	462	16.0	5.49
		Stack 3	371132	3746525	4.4	42.7	462	16.0	5.49

Emission Rates

Scenario	Annual NO_2		Annual PM_{10}		Annual $PM_{2.5}$	
	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)
Stack 1	1.28	10.1	0.52	4.12	0.52	4.12
Stack 2	1.28	10.1	0.52	4.12	0.52	4.12
Stack 3	1.28	10.1	0.52	4.12	0.52	4.12

Redondo Beach Energy Project
Attachment DR10-1 Table 2
Modeling Results Summary
December 2013

Source	Year	NO_2 ($\mu g/m^3$) Annual	PM_{10} ($\mu g/m^3$) Annual	$PM_{2.5}$ ($\mu g/m^3$) Annual
ALL	2005	0.43	0.23	0.23
STACK 1		0.15	0.082	0.082
STACK 2		0.14	0.077	0.077
STACK 3		0.14	0.076	0.076
ALL	2006	0.39	0.21	0.21
STACK 1		0.14	0.074	0.074
STACK 2		0.13	0.069	0.069
STACK 3		0.13	0.069	0.069
ALL	2007	0.40	0.21	0.21
STACK 1		0.14	0.075	0.075
STACK 2		0.13	0.071	0.071
STACK 3		0.13	0.070	0.070
ALL	2008	0.41	0.22	0.22
STACK 1		0.14	0.077	0.077
STACK 2		0.14	0.074	0.074
STACK 3		0.13	0.073	0.073
ALL	2009	0.42	0.23	0.23
STACK 1		0.15	0.079	0.079
STACK 2		0.14	0.074	0.074
STACK 3		0.14	0.074	0.074

The maximum annual NO_2 concentrations include an ambient NO_2 ratio of 0.75.

Biological Resources (20–24)

Nitrogen Deposition: Background

Impacts of excessive nitrogen deposition to plant communities include direct toxicity and changes in species composition among native species such as enhancement of nonnative invasive species. The increased dominance and growth of invasive annual grasses is especially prevalent in low-bio-mass vegetation communities that are naturally nitrogen limited. Although the Redondo Beach Energy Project (RBEP) site does not contain suitable habitat for listed species, there is critical habitat for western snowy plover, federally listed as threatened and a state Special Species of Concern, within 1 mile north of the project site and at the Madrona Marsh Nature Preserve, which is approximately 3.4 miles southeast. The Madrona Marsh Nature Preserve has federally listed fairy shrimp and vernal marsh, back dune, and vernal pool habitats that are sensitive to increased nitrogen levels. Although air emissions including nitrogen oxides (NOx) were discussed in the AFC, no model or data to determine the total nitrogen deposition rate as well as the extent of the plume from the proposed project site were provided. Energy Commission staff believes that nitrogen deposition resulting from emission of nitrogen oxides (NOx) and ammonia (NH3) during operation of the proposed project could have negative impacts on biological resources nearby if the nitrogen deposition plume covers these areas.

DATA REQUEST

20. Please quantify the existing baseline total nitrogen deposition rate, in the vicinity of the RBEP, in kilograms per hectare per year (kg/ha/yr). The geographical extent of the nitrogen deposition mapping should be directed by the results, i.e. extend geographically to where the deposition is considered below any stated threshold of significance for vegetation communities. Thresholds for nitrogen deposition by vegetation type are available within the March 2007 California Energy Commission report, titled "Assessment of Nitrogen Deposition: Modeling and Habitat Assessment, " available at: http://www.energy.ca.gov/2006publications/CEC-500- 2006-032/CEC-500-2006-032.PDF, and the May 2007 California Energy Commission PIER report, titled "Impacts of Nitrogen Deposition on California Ecosystems and Biodiversity, available at: http://www.enerqv.ca.00v/2005publications/CEC-500-2005-165/CEC-500-2005- 165.PDF. Please include references and guidelines used in your baseline analyses.

Response: Based on nitrogen deposition rates presented in the CEC's *Impacts of Nitrogen Deposition on California Ecosystem and Biodiversity*,[3] the background nitrogen deposition rates in the South Coast Air Basin ranges from 1 or 2 kilograms-nitrogen per hectare per year (kg-N ha^{-1} yr^{-1}) along the coastline to 21 kg-N ha^{-1} yr^{-1} in the Central Los Angeles Basin. The Applicant estimates that the existing baseline nitrogen deposition rates near the project site are less than or equal to 2 kg-N ha^{-1} yr^{-1} because the RBEP project and neighboring biological resource areas are within 5 kilometers of the coastline.

The Applicant conducted a literature review to identify critical load (CL) rates for the various biologically sensitive communities within 6 miles of RBEP. The CL rates presented in Table DR20-1 were compiled based on information contained in the *Effects of Nitrogen Deposition and Empirical Nitrogen Critical Loads for Ecoregions of the United States* paper (Pardo et al., 2011), *Regional and Global Concerns over Wetlands and Water Quality* (Verhoeven et al., 2006), and *Empirical Nitrogen Critical Loads for Natural and Semi-natural*

[3] California Energy Commission. 2006. *Impacts of Nitrogen Deposition on California Ecosystem and Biodiversity*. CEC-500-2005-165.

Ecosystems: 2002 Update (Bobbink et al., 2003). The CL is defined as "the deposition of a pollutant below which no detrimental ecological effect occurs over the long term according to present knowledge" and is reported as a flux with the following units, kg ha^{-1} yr^{-1} (Pardo et al., 2011).

TABLE DR20-1
Critical Loads of Nitrogen for the California Mediterranean Ecoregion and Wetlands

Habitat Type [a]	CL for N deposition (kg-N ha^{-1} yr^{-1}) [b, c, d]	Sensitive Natural Communities and Critical Habitat [e]	Wetlands and Protected Areas [f]
Coastal sage scrub	7.8–10 [b]	Coastal bluff scrub, coastal California gnatcatcher, Palos Verdes blue butterfly	Ballona Wetlands, George F. Canyon Nature Preserve, Defense Fuel Support Point (DFSP), Linden H. Chandler Preserve, Palos Verdes Peninsula Subarea Natural Community Conservation Plan (NCCP), White Point Nature Preserve
Coastal dunes	10–20 [e]	Southern dune scrub	Dockweiler Beach, Esplanade Bluff Cliffs
Freshwater marsh/wetland	2.7–13 [b]	—	Ballona Wetlands, Madrona Marsh Nature Preserve
Intertidal salt marshes	63–400 [b]	Southern coastal marsh; Western snowy plover	Ballona Wetlands
Intertidal wetlands	50–100 [b]	Southern coastal marsh	Ballona Wetlands
Oak woodlands	4–10 [b]	—	Madrona Marsh Nature Preserve
Serpentine grassland	6 [b]	—	Linden H. Chandler Preserve
Riparian forest/scrub	20–155 [c]	—	Ballona Wetlands, George F. Canyon Nature Preserve, Linden H. Chandler Preserve, Palos Verdes Peninsula Subarea NCCP

[a]Habitat types listed in this column were obtained from literature.
[b]Pardo L. H., M. E. Fenn, C. L. Goodale, L. H. Geiser, and C. T. Driscoll. 2011. Effects of nitrogen deposition and empirical nitrogen critical loads for ecoregions of the United States. *Ecological Applications* 21:3049-3082 and references therein unless noted otherwise. The freshwater wetlands CL are from wetlands in northeastern U.S. and Canada.
[c]Verhoeven, J. T. A., B. Arheimer, Y. Chengquing, and M. M. Hefting. 2006. Regional and global concerns over wetlands and water quality. *TRENDS in Ecology and Evolution* 21(2):96-103.
[d]Bobbink, R., M. Ashmore, S. Braun, W. Flückiger, and I. J. J. Van den Wyngaert. 2003. Empirical nitrogen critical loads for natural and semi-natural ecosystems: 2002 update. In: B. Achermann and R. Bobbink (Eds.), *Empirical Critical Loads For Nitrogen - Proceedings SAEFL*. Berne, pp. 43-171.
[e]Corresponding sensitive natural communities and critical habitat found within 10 miles of the RBEP.
[f]Corresponding significant regional wetlands, protected areas, sensitive natural communities and critical habitat that were identified within 10 miles of the RBEP.

DATA REQUEST

21. Please use AERMOD or an equivalent model to provide an analysis of impacts due to total nitrogen deposition from operation of the RBEP. The analysis should specify the amount of total nitrogen deposition in kg/ha/yr at the designated critical habitat for western snowy plover (Charadrius nivosus nivosus), Madrona Marsh Nature Preserve, and any other sensitive vegetation communities or habitats that occur in the project area for wet and dry deposition. Please provide complete citation for references used in determining this number.

Response: The wet and dry nitrogen deposition resulting directly from depositional nitrogen emissions from the three combustion turbines at the proposed RBEP were evaluated using AERMOD (Version 12345).

AERMOD is considered a conservative model for this analysis as it is a steady-state Gaussian plume dispersion model and does not calculate the complex chemical transformations and equilibria associated with nitrogen deposition.

Beyond the use of AERMOD, several additional conservative assumptions were used in the modeling with regard to nitrogen formation and deposition:

- 100 percent conversion of NO_x and ammonia (NH_3) into atmospherically-derived nitrogen (ADN) within the turbine stacks rather than allowing for the conversion of NO_x and NH_3 to occur over distance and time within the atmosphere, which would be more realistic.
- Depositional rates and parameters were based upon nitric acid (HNO_3), which, of all the depositing species, has the highest affinity for impacts to soils and vegetation and tendency to stick to what it is deposited on.
- Maximum settling velocities were selected to produce conservative deposition rates.
- Maximum potential emissions for the RBEP were assumed to occur each year.
- The approach assumes no net benefit from the discontinuation of the use of the existing boilers at RBGS. RBGS Units 1–4 and 17 are nonoperational and Units 5–8 will be shutdown immediately after completion of the project.

Emissions

Emissions of depositional nitrogen were conservatively calculated as a complete conversion of in-stack NO_x and NH_3 from each of the three combustion turbines. This was done by multiplying the nitrogen mass fraction of each of the pollutants by the respective average annual emissions. For example, the mass fraction of nitrogen (14 grams per mol [g/mol]) in NO_x (as NO_2, 46 g/mol) is 0.304, while the mass fraction of nitrogen in NH_3 (17 g/mol) is 0.824.[4] Table DR21-1 presents the emissions for each combustion turbine.

TABLE DR21-1
RBEP Average Annual Depositional Nitrogen Emissions (per turbine)

NO_x Emissions (tpy)	NH_3 Emissions (tpy) [a]	Depositional Nitrogen from NO_x (tpy) [b]	Depositional Nitrogen from NH_3 (tpy)	Total Depositional Nitrogen (tpy)
40.5	16.0	12.3	13.2	25.5

[a] Average annual NH_3 assumed to be 2.5 parts per million by volume (ppmv) (see footnote below).
[b] Molecular weight of NO_x calculated as NO_2.

Model Setup

The AERMOD model setup for the nitrogen deposition modeling was based on the same source locations and stack parameters identified for the annual NO_2 modeling included in RBEP AFC Appendix 5.1C. Receptor grids were developed for each of the wetland areas identified in DR-20, with receptors located at 25-m increments along the perimeter of each of the wetland areas and Cartesian-grid receptors spaced at 100-m increments within the wetland areas. AERMOD also requires additional depositional parameters in order to model wet and dry deposition, which are discussed below.

[4] The Applicant has requested a maximum allowable NH_3 emission concentration of 5 parts per million by volume (ppmv) but the NH_3 emissions are expected to be significantly lower than the allowable limit as the catalyst will be in a new, clean condition and catalyst efficiency will be at its highest. However, as the selective catalyst reduction (SCR) system degrades, the NH_3 emissions will increase to a point where catalyst replacement is required. The SCR degradation is measured periodically and the rate of degradation can be predicted so that catalyst replacement can be scheduled to avoid exceeding the allowable NO_x or NH_3 emission limitations. As a result, the replacement of the catalyst occurs well before the NH_3 emissions reach the maximum allowable concentration. Therefore, a median point in the range of NH_3 emissions was assumed to estimate the annual nitrogen deposition due to the NH_3 emissions.

The dry deposition algorithms in AERMOD include land use characteristics and some dry gas deposition resistance terms based on five seasonal categories and nine land use categories. The seasonal categories used for each month of modeling are as follows:

- Midsummer: April, May, June, and July
- Autumn: August, September, and October
- Late Autumn/Winter without snow: November, December, and January
- Transitional Spring: February and March

Land use categories are used within AERMOD to calculate dry deposition of the emitted nitrogen compounds. For example, in areas of lush vegetation, the gaseous nitrogen compounds would have a higher uptake and, therefore, dry deposition would be higher at these areas than in bodies of water or urban areas with fewer trees. The land use categories used in the analysis were determined for each 10 degree increment within a 3-kilometer-radius area surrounding RBEP, with 0 degrees representing due north, and are as follows:

- Suburban areas, grassy: Sectors 1–18 and 33–36
- Bodies of water: Sectors 19–32

AERMOD also requires the input of wet and dry depositional parameters based on the nitrogen-containing species being emitted. For this analysis, it was conservatively assumed that all nitrogen emitted was in the form of HNO_3 because HNO_3 is the most depositionally-aggressive species. The depositional parameters are as follows:

- Diffusivity in Air: 0.1628 square centimeters per second (cm^2/s)
- Diffusivity in Water: 2.98×10^{-5} cm^2/s
- Cuticular Resistance Term: 1.0×10^5 seconds per centimeter (s/cm)
- Henry's Law Coefficient: 8.0×10^{-8} Pascal-cubic meters per mole ($Pa\ m^3/mol$)

Lastly, AERMOD requires hourly inputs of precipitation code, precipitation amount, relative humidity, and surface pressure that were not included in the pre-processed AERMET meteorological data available from the SCAQMD. Therefore, supplemental AERMET data were required to complete the analysis. The Los Angeles International Airport station is the nearest National Weather Service surface station with data available for the same time period as the SCAQMD LAXH AERMET meteorological data used in RBEP's air dispersion modeling assessment. Furthermore, the Los Angeles International Airport surface station is located approximately 4.5 kilometers northwest of the SCAQMD LAXH meteorological station used by the SCAQMD to prepare the AERMET dataset. The proximity of these two meteorological stations provides representative hourly meteorological conditions needed for use in the nitrogen deposition modeling assessment. The parameters from the Los Angeles International Airport surface station were thus inserted into the SCAQMD AERMET dataset.

Model Results

The maximum modeled annual deposition over 5 years was combined with a conservative estimated background deposition rate of 2 kg-N ha^{-1} yr^{-1} and compared to the CL for nitrogen deposition for each of the habitat types present in the wetland areas.

The results of the deposition modeling are shown in Table DR21-2. In each case, the maximum predicted nitrogen deposition was less than the CL deposition. Because the potential effects are below the CL, no detrimental ecological effect will occur as a result from the RBEP project. Therefore, even with the use of the conservative methodology for estimating nitrogen deposition noted previously, any contribution of nitrogen deposition from RBEP would have a less-than-significant impact on sensitive species habitat located near the project site.

The AERMOD input and output files have been separately prepared and are included as Attachment DR 21-1 on compact disc. The maximum predicted nitrogen deposition and location within each of the sensitive areas are also identified in the following response to DR- 22 (see Figure DR22-1).

TABLE DR21-2
Comparison of the Predicted RBEP Nitrogen Deposition Flux to the Critical Loads of Nitrogen for the California Mediterranean Ecoregion and Wetlands

Habitat type	Maximum Predicted N Deposition Rate (kg-N ha^{-1} yr^{-1})	Background N Deposition Rate (kg-N ha^{-1} yr^{-1})	Total Predicted N Deposition Rate* (kg-N ha^{-1} yr^{-1})	CL for N Deposition (kg-N ha^{-1} yr^{-1})	Location of Maximum Predicted Deposition (i.e., Name of Wetland and/or Protected Area)
Coastal sage scrub	0.05	2	2.05	7.8–10	Palos Verdes Peninsula Subarea NCCP
Coastal dunes	0.11	2	2.11	10–20	Esplanade Bluff Cliffs
Freshwater marsh/wetland	0.07	2	2.07	2.7–13	Madrona Marsh Nature Preserve
Intertidal salt marshes	0.04	2	2.04	63–400	Ballona Wetlands
Intertidal wetlands	0.04	2	2.04	50–100	Ballona Wetlands
Oak woodlands	0.07	2	2.07	4–10	Madrona Marsh Nature Preserve
Serpentine grassland	0.03	2	2.03	6	Linden H. Chandler Preserve
Riparian forest/scrub	0.05	2	2.05	20-155	Palos Verdes Peninsula Subarea NCCP

*The total predicted N deposition is the sum of the estimated background deposition rate of 2 kg-N ha^{-1} yr^{-1} plus the maximum predicted deposition rate.

DATA REQUEST

22. Please provide an isopleths graphic over the most recent aerial photographs (or equally detailed maps) of the direct nitrogen deposition rates caused by the RBEP. This will be a graphical depiction of the project's nitrogen deposition.

Response: The predicted nitrogen deposition flux isopleths are included in Figure DR22-1.

DATA REQUEST

23. Please provide a comprehensive cumulative impact analysis for the nitrogen deposition in kg/ha/yr caused by RBEP in combination with other reasonably foreseeable projects and provide an isopleths graphic over the most recent aerial photographs of the nitrogen deposition values.

Response: The cumulative modeling results for nitrogen deposition will be provided within 30 business days of CEC Staff's approval of the proposed list of sources and associated stack parameters, which is presented in the response to DR-13.

El Segundo Blue Butterfly

Habitat for the El Segundo blue butterfly (federally endangered) occurs along the southeastern shores of Santa Monica Bay. It has been the target of major restoration efforts by numerous government agencies,

including the city of Redondo Beach. No impact analysis for this species was provided in the AFC. This species has been observed at the Esplanade Bluff Cliffs south of the project site (Aaron Jones pers. comm.).

DATA REQUEST

24. Please provide an impact (direct and indirect) analysis and proposed mitigation measures for any significant impacts to the El Segundo Blue Butterfly.

Response: As shown in Table DR20-1, the Esplanade Bluff Cliffs, where the El Segundo Blue Butterfly species was reportedly observed, belongs to the coastal dunes habitat type. Based on the response to DR- 21, as depicted in Figure DR22-1, the maximum modeled annual deposition over 5 years in the Esplanade Bluff Cliffs area was 0.11 kg-N ha^{-1} yr^{-1}. When this modeled impact is combined with a conservative estimated background deposition rate of 2 kg-N ha^{-1} yr^{-1}, the total predicted impact is below the CL for nitrogen deposition for the coastal dunes habitat. Because the potential effects are below the CL, no detrimental ecological effect will occur as a result from the RBEP project. As such, the impacts to the El Segundo Blue Butterfly as a result of nitrogen deposition are expected to be less-than-significant.