



ENVIRONMENTAL MANAGEMENT ASSOCIATES

December 8, 2017

Mr. Ramon Gonzales
Project & Business Development Coordinator
Z Global Inc.
750 West Main Street
El Centro, CA 92243

Re: Air Pollutant Emission Assessment, Vega SES LLC Solar Project Construction and Operations, Imperial County, California

Dear Mr. Gonzales:

Environmental Management Associates, Inc. (EMA) has prepared this assessment of the emissions of the following seven air pollutants from the construction and operation of the Vega SES LLC Solar Project (Project), Imperial County, California: criteria air pollutants particulate matter smaller than 10 microns in aerodynamic diameter (PM₁₀), particulate matter smaller than 2.5 microns in aerodynamic diameter (PM_{2.5}), carbon monoxide (CO), nitrogen oxides (NO_x) and sulfur dioxide (SO₂); and criteria air pollutant precursor reactive organic gases (ROGs); as well as greenhouse gases (GHG), such as carbon dioxide (CO₂), nitrous oxide (N₂O) and methane (CH₄).

The Imperial County Air Pollution Control District “CEQA Air Quality Handbook” (November 2007) provides guidance to assist Imperial County CEQA Lead Agencies in making a determination on the type of environmental document to prepare.

The Handbook (page 8) states that “Table 1 (of the Handbook) provides general guidelines for determining the significance of impacts and the recommended type of environmental analysis required based on the total emissions that are expected from the operations phase of a project.” Table 1 presents these “Thresholds of Significance for Project Operations” from Table 1 of the ICAPCD CEQA Handbook.

Table 1: ICAPCD “Thresholds of Significance for Project Operations”

Air Pollutant	ROG	NO _x	CO	SO ₂	PM ₁₀
Threshold (<lbs/day)	55.00	55.00	550.00	150.00	150.00

The ICAPCD operations activities table does not present “significance thresholds” for PM_{2.5} or GHG.



Table 4 of the Handbook (“Thresholds of Significance for Construction Activities”) “is intended to serve as a guide for project developers and interested parties in determining the recommended type of mitigation measures.” (page 19). Table 2 provides the “Thresholds of Significance for Construction Activities” listed in Table 4 of the Handbook.

Table 2: ICAPCD “Thresholds of Significance for Construction Activities”

Air Pollutant	ROG	NO_x	CO	PM₁₀
Threshold (<lbs/day)	75.00	100.00	550.00	150.00

The ICAPCD construction activities table does not present “significance thresholds” for PM_{2.5}, SO₂ or GHG.

To conduct this analysis, EMA utilized information from the Vega SES LLC CalEEMod Supplemental Project Description prepared by EMA with information provided by Vega SES LLC (Vega) (provided as Attachment A to this letter report).

Air pollutant emissions for the Project operations and construction activities were estimated using the California Emission Estimator Model (CalEEMod) (version 2016.3.1). CalEEMod is a computer program developed by ENVIRON International Corporation in collaboration with the South Coast Air Quality Management District (SCAQMD) and other California Air Districts that can be used to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use and travel), as well as indirect emissions, such as GHG emissions from energy use. Mitigation measures can also be specified and their emission reductions calculated.

Unpaved private industrial road fugitive dust air pollutant emissions were calculated using the U.S. Environmental Protection Agency’s (USEPA’s) “AP-42, Compilation of Air Pollutant Emission Factors.” AP-42 has been published since 1972 as the primary compilation of EPA’s air pollutant emission factor information. It contains emission factors and process information for more than 200 air pollution source categories. The emission factors have been developed and compiled from source test data, material balance studies, and engineering estimates. The latest emissions factors are available from the USEPA’s website.

The Project would consist of the construction, operation and reclamation of a solar photovoltaic (PV) energy generation facility with an integrated 100 MW battery storage project on approximately 574 acres of land in southwestern Imperial County, California. Vega is considering two options for development on the 574 acres: a fixed-frame PV array option (producing a nominal peak of 130 megawatts alternating current (MW_{AC})) or a horizontal single-axis tracking (HSAT) PV array option (producing a nominal 82.5 (MW_{AC})). These two options are modeled as having the same emissions during construction, and only a slight difference in GHG emissions during operations.

Project construction would consist of different activities which would be undertaken in phases, through to the operation of the Project. Construction of the project is expected to consist of the following ten activities (CalEEMod “phases”): access road (all-weather) improvement;

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grading/fencing; racking installation; solar panel installation; system wiring and trenching; battery facility installation, inverter installation; gentie power line construction; substation construction, and driveway paving. Some of the ten activities are expected to overlap another construction activity. Construction of the Project is estimated to take approximately 12 months. The schedule presented in Table 3 and Table 4 includes the likely phasing of the various construction activities. As shown in Table 4, operations would commence once construction is complete.

Table 3: Anticipated Construction and Operation Schedule

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7			
	Week #																											
	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
Access Road Construction	X	X	X	X	X	X	X																					
Grading/Fencing								X	X	X	X	X																
Racking Installation													X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Solar Panel Installation																							X	X	X	X	X	X
GenTie Power Line Construc.																								X	X	X	X	
Substation Construc.																								X	X	X	X	
System Wiring & Trenching																												
Inverter Installation																												
Battery Facility Installation																												
Driveway Paving																												
Operations																												

Table 4: Anticipated Construction and Operation Schedule (continued)

	Month 8				Month 9				Month 10				Month 11				Month 12				Month 13							
	Week #																											
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					
Access Road Construction																												
Grading/Fencing																												
Racking Installation	X	X	X	X	X	X	X																					
Solar Panel Installation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
GenTie Power Line Construc.	X	X	X																									
Substation Construc.	X	X	X	X	X	X	X	X	X	X	X	X																
System Wiring and Trenching					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
Inverter Installation											X	X	X	X	X	X	X	X	X	X	X							
Battery Facility Installation												X	X	X	X	X	X	X	X	X	X							
Driveway Paving																						X	X					
Operations																											X	X

Each construction and operation activity has the potential to produce air pollutant emissions which vary in both the specific type and quantity emitted. EMA has calculated the daily air pollutant emissions from the Project’s ten construction phases and Project’s operations in one CalEEMod model and fourteen unpaved (private) industrial road calculations using AP-42 emission factors.

Table 5, Table 6, Table 7, Table 8 and Table 9 outline the ten phases the CalEEMod model and fourteen AP-42 emission factors used to calculate the daily air pollutant emissions from the Project’s ten construction activities. Table 10 outlines the single phase the CalEEMod model used to calculate the daily air pollutant emissions from the Project operations. These six tables also identify the Project construction and operation activities’ air pollutant sources, the type of air pollutant emitted from each source, type of model used to calculate emissions, and the Attachment to this letter report in which the input and output files for each specific model are located. The CalEEMod input and output files for each of the ten construction phases are presented in Attachment B. The CalEEMod input and output files for the operation phase are also presented in Attachment B. The AP-42 calculations are presented in Attachment C

Table 5: CalEEMod Air Pollutant Emissions Calculation Models – Construction Activities

Project Phase(s)	Access Road Improvement (All-Weather)					Grading/Fencing				
Air Pollutant Source	Onsite Traffic	Grading	On-Site Equip.	Off-Site Traffic		Onsite Traffic	Grading	On-Site Equip.	Off-Site Traffic	
Air Pollutant Emissions	Fugitive Dust	Fugitive Dust	Combust. Emissions	Fugitive Dust	Combust. Emissions	Fugitive Dust	Fugitive Dust	Combust. Emissions	Fugitive Dust	Combust. Emissions
Model Using	AP-42	CalEEMod (V20 HSAT)				AP-42	CalEEMod (V20 HSAT)			
Attach.	Attach. C	Attachment B				Attach. C	Attachment B			

Table 6: CalEEMod Air Pollutant Emissions Calculation Models – Construction Activities (continued)

Project Phase(s)	Racking Installation				Solar Panel Installation			
Air Pollutant Source	Onsite Traffic	On-Site Equipment	Off-Site Traffic		Onsite Traffic	On-Site Equipment	Off-Site Traffic	
Air Pollutant Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions
Model Using	AP-42	CalEEMod (V20 HSAT)			AP-42	CalEEMod (V20 HSAT)		
Attachment	Attach. C	Attachment B			Attach. C	Attachment B		

Table 7: CalEEMod Air Pollutant Emissions Calculation Models – Construction Activities (continued)

Project Phase(s)	GenTie Power Line Construction				Project Substation Construction			
Air Pollutant Source	Onsite Traffic	On-Site Equipment	Off-Site Traffic		Onsite Traffic	On-Site Equipment	Off-Site Traffic	
Air Pollutant Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions
Model Using	AP-42	CalEEMod (V20 HSAT)			AP-42	CalEEMod (V20 HSAT)		
Attachment	Attach. C	Attachment B			Attach. C	Attachment B		

Table 8: CalEEMod Air Pollutant Emissions Calculation Models – Construction Activities (continued)

Project Phase(s)	System Wiring & Trenching				Inverter Installation			
Air Pollutant Source	Onsite Traffic	On-Site Equipment	Off-Site Traffic		Onsite Traffic	On-Site Equipment	Off-Site Traffic	
Air Pollutant Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions
Model Using	AP-42	CalEEMod (V20 HSAT)			AP-42	CalEEMod (V20 HSAT)		
Attachment	Attach. C	Attachment B			Attach. C	Attachment B		

Table 9: CalEEMod Air Pollutant Emissions Calculation Models – Construction Activities (continued)

Project Phase(s)	Battery Facility Installation				Driveway Paving			
Air Pollutant Source	Onsite Traffic	On-Site Equipment	Off-Site Traffic		Onsite Traffic	On-Site Equipment	Off-Site Traffic	
Air Pollutant Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions	Fugitive Dust	Combustion Emissions
Model Using	AP-42	CalEEMod (V20 HSAT)			AP-42	CalEEMod (V20 HSAT)		
Attachment	Attach. C	Attachment B			Attach. C	Attachment B		

Table 10: CalEEMod Air Pollutant Emissions Calculation Models – HSAT & FF Operation Activities

Project Phase(s)	Operations				Operations			
Air Pollutant Source	Off-Site Traffic		Electrical	Water Use	Off-Site Traffic		Electrical	Water Use
Air Pollutant Emissions	Fugitive Dust	Combustion Emissions	GHG Emissions	GHG Emissions	Fugitive Dust	Combustion Emissions	GHG Emissions	GHG Emissions
Model Using	CalEEMod (V20 HSAT)				CalEEMod (V20 FF)			
Attachment	Attachment B				Attachment B			

In addition to the CalEEMod calculations and results, Attachments B also contains a “User Entered Comments and Non-Default Data” section which both identifies non-default inputs and explains how CalEEMod is used to calculate emissions for the current project. When CalEEMod model defaults were retained and no further explanation was necessary, no “comments” were recorded.

Although the CalEEMod model is capable of calculating air pollutant emissions across many of these construction activities for a number of different projects, its default project types do not include a “solar photovoltaic farm” project. Therefore, the “user defined industrial” land use category was selected as a surrogate. Where applicable, CalEEMod defaults were retained as the model inputs. However, CalEEMod defaults were replaced with project-specific information where available (such as the number of worker-commute and truck traffic, and the percentage of off-site roads to be traveled by off-site traffic which would be paved and unpaved). Defaults were also replaced if applicable project information was available in the CalEEMod Supplemental Project Description using information provided by Vega. Examples of this latter information include the mix of construction equipment expected to be used.

To reduce fugitive dust Vega would water the all-weather private access roads at least three times per day and limit speed on the all-weather private access roads to 25 mph. Further, actively disturbed areas on the Project site would also be watered at least three times a day as necessary to reduce fugitive dust emissions. The CalEEMod models with grading assumed on-site watering three times daily during the grading activities.

Attachment B contains the CalEEMod-generated reports of the model outputs for each activity. All of the output reports contain calculated air pollution emissions for both “unmitigated” and “mitigated” activities. “Unmitigated” emissions are those calculated by CalEEMod when none of the air pollutant mitigation measures contained within the CalEEMod program are selected. “Mitigated” emissions are those calculated by CalEEMod after the application of the air pollutant mitigation measures described above which are contained within, and can be calculated by, CalEEMod.

Attachment B also contains the CalEEMod-generated report of the model outputs for both the HSAT and fixed-frame array operations – one for each array option for the summer months (Attachment B-1), for the winter months (Attachment B-2), and for the annual (or phase) time period (Attachments B-3 and Attachment B-4). The CalEEMod “mitigation report” is provided as Attachment B-5.

The traffic driving to the Project site will travel on paved public roads and a short distance of unpaved (all-weather) private access road. Due to the simplicity of the CalEEMod model, the emissions from the paved public roads were calculated using CalEEMod, but emissions from the unpaved (all-weather) private access roads were calculated outside of CalEEMod using AP-42. These calculations are provided in Attachment C.

Attachment D contains tables summarizing the specific daily (and annual for GHG) air pollutant emissions calculated for each construction phase (and the operation phase of the HSAT and fixed-frame arrays), providing the winter and summer unmitigated and mitigated daily air pollution emissions. In addition, the unpaved (all-weather) private access roads emissions calculated in Attachment C have been added.

In order to determine the daily project-wide construction air pollutant emissions, the daily air pollutant emissions presented in Attachment D must be summed across each construction activity which would be occurring at the same time. Table 3 identifies the Project construction

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activities and how they are expected to overlap in time, based on the information presented in the Supplemental Project Description. Attachment E presents tables providing the winter and summer unmitigated and mitigated daily air pollution emissions (from Attachment D) summed by applicable construction activities across the twelve time periods outlined in Table 3 for the Project.

Attachment E compares the daily construction activities air pollution emissions summed by activities across all applicable time periods against the daily construction activities emission thresholds listed in Table 2. Attachment E also compares, for both the HSAT and fixed-frame array options, the daily operations air pollution emissions against the daily operations emission thresholds listed in Table 1. Attachment E shows that the mitigated daily emissions (both winter and summer) of PM₁₀, NO_x, SO₂, CO and ROG during construction, and operation of the Vega SES LLC Solar Project were below the respective construction and operation thresholds for the air pollutants.

Please do not hesitate to contact us if you have any questions or require any additional information. EMA appreciates this opportunity to be of service to Vega.

Sincerely:

ENVIRONMENTAL MANAGEMENT ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Dwight L. Carey". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

Dwight L. Carey, D.Env.
Principal

Attachments:

VEGA SES LLC SOLAR PROJECT
SUPPLEMENTAL PROJECT DESCRIPTION FOR CALEEMOD ASSESSMENT

December 2017

This Supplemental Project Description has been prepared to provide information for use in estimating the air pollutant emissions during Project construction and operation.

Vega SES, LLC (Vega) is proposing to develop the Vega SES LLC Solar Project (Vega Solar or Project), a solar photovoltaic (PV) energy generation facility with an integrated 100 MW battery storage project located on approximately 574 acres of agricultural land (Property) in southwestern Imperial County, California. Vega is considering two options for development on the 574 acres: a fixed-frame PV array option (producing a nominal peak of 130 megawatts alternating current (MW_{AC})) and a horizontal single-axis tracking (HSAT) PV array option (producing a nominal 82.5 (MW_{AC})). The Project would consist of the construction, operation and reclamation of a solar energy project on the Property, including solar arrays, internal all-weather access roads, an electrical substation, and a battery storage facility. In addition, approximately 0.6 miles of new 230 kV transmission (gentie) line would be installed to connect the Vega Solar substation with the Imperial Irrigation District (IID)-proposed Fern substation (which is included in this assessment).

The principal access to the Project property would be from Drew Road, a paved county road. No unpaved public roads would be traveled by traffic accessing the Project. Approximately 2.4 miles of private road off Drew Road would be improved to become all-weather access roads to provide access to each of the five separate Imperial County Assessor parcels.

Construction of the Project is estimated to take approximately 12 months. The schedule presented in Table 1 and Table 2 includes the likely phasing of the various construction activities for the project.

ATTACHMENT A

VEGA SES LLC SOLAR PROJECT
CALEEMOD SUPPLEMENTAL PROJECT DESCRIPTION

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 SUPPLEMENTAL PROJECT DESCRIPTION FOR CALEEMOD ASSESSMENT
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Table 1 – Anticipated Construction Schedule

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7			
	Week #																											
	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
Access Road Construction	X	X	X	X	X	X	X																					
Grading/Fencing								X	X	X	X	X																
Racking Installation													X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Solar Panel Installation																								X	X	X	X	X
GenTie Power Line Construc.																									X	X	X	X
Substation Construc.																									X	X	X	X
System Wiring & Trenching																												
Inverter Installation																												
Battery Facility Install																												
Driveway Paving																												
Operations																												

Table 2 – Anticipated Construction Schedule (continued)

	Month 8				Month 9				Month 10				Month 11				Month 12				Month 13							
	Week #																											
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52				
Access Road Construction																												
Grading/Fencing																												
Racking Installation	X	X	X	X	X	X	X	X																				
Solar Panel Installation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
GenTie Power Line Construc.	X	X	X																									
Substation Construc.	X	X	X	X	X	X	X	X	X	X	X	X																
System Wiring & Trenching					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
Inverter Installation												X	X	X	X	X	X	X	X	X	X							
Battery Facility Install													X	X	X	X	X	X	X	X	X	X						
Driveway Paving																								X	X			
Operations																										X	X	X

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Construction of the Project would commence with the improvement of approximately 2.4 miles of private road off Drew Road to become the private all-weather access roads to all Project areas. These improved, 24-foot wide access roads are expected to require light site preparation, grading, and compacting. (The paving of the driveway off of Drew Road would occur towards the end of Project construction.) The access road construction activities are expected to require seven weeks to complete. These grading activities are expected to occur over approximately 8.6 acres; the total cumulative acreage disturbed from grading is estimated at approximately 51 acres (approximately six passes over the 8.6 acre area). An estimated 12 worker trips and 12 haul truck trips per day traveling an average of approximately 0.7 miles (one-half of the longer (1.4 miles) of all-weather private road are expected daily traveling to and from the work site. The equipment expected to be used during the improvement of the access roads is provided in Table 3.

Table 3– Anticipated Access Road Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Graders	1	8	187
Water Trucks (Off-Highway Trucks)	1	8	402
Rollers	1	6	80

All traffic to and from the various Project sites during each additional construction phase is assumed to travel approximately 0.7 miles (one-half of the longer (1.4 miles) of all-weather private road. To reduce fugitive dust Vega Solar would water the all-weather private roads at least three times per day and limit speed on the all-weather private roads to 25 mph. Further, actively disturbed areas on the Project site would be watered at least three times a day as necessary to reduce fugitive dust emissions.

Grading activities are expected to total approximately three passes over the 574 acre Project area, or a total of approximately 1,722 acres of grading. Fencing and retention basin construction are also anticipated to occur during this phase. The grading phase with fence installation is expected to require approximately six weeks. An estimated 104 worker trips, six vendor trips and four delivery truck trips per day would be traveling to and from the Project site. On-site parking would be provided for all construction workers. During grading, the Project site would be watering actively disturbed on-site areas at least three times a day as necessary to reduce fugitive dust emissions. The equipment expected to be used during the grading phase is provided in Table 4.

Table 4– Anticipated Grading and Fencing Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Graders	2	6	187
Water Trucks (Off-Highway Trucks)	2	7	402
Rubber Tired Dozers	2	6	247
Scrapers	3	6	367
Tractors/Loaders/Backhoes	2	6	97
Excavators	2	6	158
Skid Steer Loaders	2	6	65

Racking installation (installation of the supports for the PV arrays) would commence once grading and fencing is complete. Approximately ten haul truck trips per day would deliver equipment and supplies to and from the Project site laydown area or directly to the active work area. Racking installation is expected

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to take about 22 weeks. Racking installation is expected to generate 112 worker trips per day traveling to and from the Project site. On-site parking would be provided for all construction workers. During this construction period, crews of laborers would commence their work at a point on the perimeter or from another point within the site, and continue their work until their assigned area is complete.

During racking installation each on-road delivery truck may be driving an estimated one and one-half miles of on-site unpaved roads to deliver construction materials directly to the active work locations.

The equipment anticipated to be used during racking installation for the Project is provided in Table 5. During racking installation, the Project would be watering actively disturbed on-site areas at least three times a day.

Table 5– Racking Installation Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Generator Sets	1	8	84
Water Trucks (Off-Highway Trucks)	1	6	402
Other General Industrial Equipment	6	6	88
Skid Steer Loaders	2	7	78

Solar panel installation would commence once sufficient racking is installed. Approximately ten haul truck trips per day (typical eighteen wheelers and similar sized trucks) would deliver solar panels and other equipment and supplies to the Project site laydown area or directly to the active work area. Solar panel installation is expected to take about 22 weeks. Solar panel installation is expected to generate 112 worker trips per day traveling to and from the Project. On-site parking would be provided for all construction workers. During this construction period, crews of laborers would commence their work at a point on the perimeter or from another point within the site, and continue their work until their assigned area is complete. Work crews would typically carry out the task of mounting the panels on the support frames. During solar panel installation the on-road delivery trucks may be driving an estimated one and one-half miles per day on on-site unpaved roads to deliver construction materials directly to the active work locations.

The equipment anticipated to be used during solar panel installation is provided in Table 6. During panel installation, the Project would be watering actively disturbed on-site areas at least three times a day.

Table 6– Solar Panel Installation Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Generator Sets	1	8	84
Water Trucks (Off-Highway Trucks)	1	6	402
Other General Industrial Equipment	1	8	88
Trenchers	2	6	65
Skid Steer Loaders	2	7	78

Construction of the 230 kV gentic transmission line would occur simultaneously with initial construction of the Project substation. Approximately 0.6 miles of new 230 kV gentic line would be constructed for the Project. Construction of the gentic line would be expected to take approximately seven weeks. An estimated 16 worker trips and two vendor trips per day would be required for construction of the gentic

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line, each traveling an average of 1.4 miles of all-weather private road to and from the construction site and Drew Road. The equipment anticipated to be used during construction of the gentie power line is provided in Table 7.

Table 7– Anticipated GenTie Line Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Aerial Lifts	3	4	63
Crawler Tractors	2	4	212
Other General Industrial Equipment	1	8	88

The electrical substation for the Project would be built in parallel with the gentie power line construction. An approximately one-acre substation would be built at the western end of the longer all-weather access road. Construction of the substation and switch station would likely require an estimated sixteen weeks to complete. An estimated 16 worker trips and four haul truck trips per day would be required for construction, each traveling approximately 1.4 miles of all-weather private access road to and from the electrical substation. The substation equipment is expected to be pre-painted and not require painting (coating) on site. The equipment anticipated to be used during substation construction is provided in Table 8.

Table 8– Anticipated Project Substation Construction Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Aerial Lifts	2	6	63
Cranes	1	6	231
Other General Industrial Equipment	1	8	88
Tractor/Loader/Backhoe	1	6	97

The System Wiring and Trenching phase would commence once sufficient solar panels have been installed. Approximately 10 haul truck trips per day would deliver equipment and supplies to the Project site laydown area or directly to the active work area. System wiring and trenching is expected to take about 15 weeks. System wiring and trenching is also expected to generate 32 worker trips per day traveling to and from the Project site. On-site parking would be provided for all construction workers. During this construction period, crews of laborers would commence their work at a point on the perimeter or from another point within the site, and continue their work until their assigned area is complete. During system wiring and trenching each on-road delivery truck may be driving an estimated one and one-half miles on on-site unpaved roads to deliver system wiring construction materials directly to the active work locations.

The equipment anticipated to be used during system wiring and trenching for the project is provided in Table 9. During system wiring and trenching, the Project would be watering actively disturbed on-site areas at least three times a day.

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Table 9– System Wiring and Trenching Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Generator Sets	2	8	84
Water Trucks (Off-Highway Trucks)	1	6	402
Other General Industrial Equipment	1	8	88
Trenchers	2	6	65
Skid Steer Loaders	2	7	78

Inverter installation would commence and work in parallel with solar panel installation and system wiring and trenching. Inverter installation is expected to take about 10 weeks. Inverter installation is expected to generate 32 worker trips and 16 haul truck trips per day traveling to and from the Project site. On-site parking would be provided for all construction workers. During this construction period, crews of laborers would commence their work at a point on the perimeter or from another point within the site, and continue their work until their assigned area is complete.

The equipment anticipated to be used during inverter installation for the project is provided in Table 10. During inverter installation the on-road delivery trucks may be driving an estimated one and one-half miles per day on-site unpaved roads to deliver inverter installation construction materials directly to the active work locations. During inverter installation, the Project would be watering actively disturbed on-site areas at least three times a day.

Table 10– Inverter Installation Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Generator Sets	1	8	84
Water Trucks (Off-Highway Trucks)	1	6	402
Other General Industrial Equipment	1	8	88
Skid Steer Loaders	2	7	78

The Battery Facility for the Project would be built in parallel with the installation of the solar arrays. The Battery Facility installation would likely require an estimated nine weeks to complete. An estimated 16 worker trips and ten haul truck trips per day traveling to and from the Project. The equipment anticipated to be used during Battery Facility Installation is provided in Table 11.

Table 11– Anticipated Battery Facility Installation Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Generator Sets	1	8	84
Water Trucks (Off-Highway Trucks)	1	6	402
Other General Industrial Equipment	1	8	88
Skid Steer Loaders	2	7	78
Trenchers	2	6	65

The paving of the driveway off Drew Road would occur towards the end of Project construction. The grading for this driveway would be completed as part of the grading phase for the Project, but the paving of the driveway would take place following the completion of most construction. This driveway is expected to require approximately 4,000 square feet of asphalt paving. The driveway paving phase is expected to require 2 weeks and an estimated 12 worker trips and eight haul truck trips daily traveling to

VEGA SES LLC SOLAR PROJECT
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and from the Project worksite. The equipment anticipated to be used during the paving of the new driveways is provided in Table 12.

Table 12– Anticipated Paving Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Rollers	1	7	80
Pavers	1	7	130
Tractor/Loader/Backhoe	1	7	97

Once the project’s substation and gentie power line have been constructed, the installed solar panels will begin delivering power to the IID system and operation of the Project will have begun. The Project is not expected to have a regular on-site staff based at the Project site during operation of the solar plant. Workers may occasionally be required to maintain the common access roads and storm water retention basins, clean the solar panels, and/or perform specific maintenance activities. During the Project operations phase, up to eight worker trips and two vendor truck trips could occur daily.

Periodic washing of the PV modules could be needed to remove dust in order to maintain power generation efficiency. The amount of water needed for this purpose is estimated at five acre feet per washing (depending on the water required for dust control during panel washing), with up to two washings per year, or a total of up to 10 acre feet per year. This water would be purchased from the IID. Each washing is expected to take one to two weeks to complete. The equipment anticipated to be used during operations is provided in Table 13.

Table 13- Anticipated Operations Equipment

Equipment Type	Amount	Daily Usage (Hours)	Horsepower
Water Trucks (Off-Highway Trucks)	1	6	402

The Project (HSAT array) would consume an estimated 350 kW-hours of electrical energy daily from the IID power system to operate the solar panel trackers, the on-site security system and the solar facility monitoring and control system. The fixed-frame array would expect to consume only 300 kW-hours of electrical energy daily, as there are no solar trackers. Very little general waste is expected to be generated during normal operations.

Table 14, Table 15, Table 16, Table 17, and Table 18 summarize the expected number of worker, vendor truck and haul truck trips, respectively, expected per day for each phase of the project construction and operation.

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 SUPPLEMENTAL PROJECT DESCRIPTION FOR CALEEMOD ASSESSMENT
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Table 14– Anticipated Worker Trips During Project Construction –Part 1

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7			
	Week #																											
	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
Access Road Construction	12	12	12	12	12	12	12																					
Grading/Fencing							104	104	104	104	104	104																
Racking Installation														112	112	112	112	112	112	112	112	112	112	112	112	112	112	
Solar Panel Installation																								112	112	112	112	112
GenTie Power Line Construc.																									16	16	16	16
Substation Construc.																									16	16	16	16
System Wiring & Trenching																												
Inverter Installation																												
Battery Facility Installation																												
Driveway Paving																												
Operations																												

Table 15– Anticipated Worker Trips During Project Construction –Part 2

	Month 8				Month 9				Month 10				Month 11				Month 12				Month 13							
	Week #																											
	29	30	32	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52				
Access Road Construction																												
Grading/Fencing																												
Racking Installation	112	112	112	112	112	112	112																					
Solar Panel Installation	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112												
GenTie Power Line Construc.	16	16	16																									
Substation Construc.	16	16	16	16	16	16	16	16	16	16	16	16																
System Wiring & Trenching					32	32	32	32	32	32	32	32	32	32	32	32	32	32	32									
Inverter Installation											32	32	32	32	32	32	32	32	32	32								
Battery Facility Installation													16	16	16	16	16	16	16	16	16							
Driveway Paving																					12	12						
Operations																									8	8	8	

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Table 16– Anticipated Vendor Truck Trips During Project Construction – Part 1

	Month 1			Month 2				Month 3					Month 4				Month 5				Month 6				Month 7			
	Week #																											
	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
Access Road Construction	0	0	0	0	0	0	0																					
Grading/Fencing							6	6	6	6	6	6																
Racking Installation													0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar Panel Installation																							0	0	0	0	0	0
GenTie Power Line Construc.																								2	2	2	2	
Substation Construc.																								0	0	0	0	
System Wiring & Trenching																												
Inverter Installation																												
Battery Facility Installation																												
Driveway Paving																												
Operations																												

Table 17– Anticipated Vendor Truck Trips During Project Construction – Part 2

	Month 8			Month 9				Month 10					Month 11				Month 12				Month 13								
	Week #																												
	29	30	32	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52					
Access Road Construction																													
Grading/Fencing																													
Racking Installation	0	0	0	0	0	0	0																						
Solar Panel Installation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
GenTie Power Line Construc.	2	2	2																										
Substation Construc.	0	0	0	0	0	0	0	0	0	0	0	0																	
System Wiring & Trenching					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Inverter Installation												0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Battery Facility Installation												0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Driveway Paving																							0	0					
Operations																										2	2	2	

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 SUPPLEMENTAL PROJECT DESCRIPTION FOR CALEEMOD ASSESSMENT
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Table 18 - Anticipated Haul Truck Trips During Project Construction – Part 1

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7			
	Week #																											
	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
Access Road Construction	12	12	12	12	12	12	12																					
Grading/Fencing							4	4	4	4	4	4																
Racking Installation													10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Solar Panel Installation																							10	10	10	10	10	10
GenTie Power Line Construc.																								0	0	0	0	
Substation Construc.																								4	4	4	4	
System Wiring & Trenching																												
Inverter Installation																												
Battery Facility Installation																												
Driveway Paving																												
Operations																												

Table 19 - Anticipated Haul Truck Trips During Project Construction – Part 2

	Month 8				Month 9				Month 10				Month 11				Month 12				Month 13							
	Week #																											
	29	30	32	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52				
Access Road Construction																												
Grading/Fencing																												
Racking Installation	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Solar Panel Installation	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
GenTie Power Line Construc.	0	0	0																									
Substation Construc.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
System Wiring & Trenching					10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Inverter Installation												16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Battery Facility Installation												10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Driveway Paving																							8	8				
Operations																										0	0	0

ATTACHMENT B

VEGA SES LLC SOLAR PROJECT

CONSTRUCTION & OPERATION ACTIVITIES

CalEEMod MODEL:

“VEGA SOLAR PROJECT CALEEMOD V20 HSAT.xls” (HSAT)

“VEGA SOLAR PROJECT CALEEMOD V20 FF.xls” (FIXED FRAME)

ATTACHMENT B-1

VEGA SES LLC SOLAR PROJECT

CONSTRUCTION & OPERATION ACTIVITIES

CalEEMod MODEL OUTPUTS - SUMMER
MODEL "VEGA SOLAR PROJECT CALEEMOD V20 HSAT.xls"

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

Vega SES LLC Solar Project - HSAT
Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	574.00	User Defined Unit	574.00	25,003,440.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	12
Climate Zone	15			Operational Year	2019
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MW hr)	1270.9	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - *

Land Use - Located on up to approximately 574 acres of land

Construction Phase - Anticipated Construction Schedule

Off-road Equipment - 1 grader 8 hrs; 1 off-highway (water) truck 8 hrs, 1 roller 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 1 trenchers 6 hrs

Off-road Equipment - 8

Off-road Equipment - 3 aerial lifts 4 hrs; 2 crawler tractors 4 hrs; 1 other general industrial equipment 8 hrs

Off-road Equipment - 2 excavators 6 hrs; 2 graders 6 hrs; 2 off-highway (water) truck 7 hrs, 2 rubber tired dozers 6 hrs; 3 scrapers 6 hrs; 2 skid steer loaders 6 hrs; 2 tractor/loader/backhoe 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs

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Off-road Equipment - 1 pavers set 7 hrs; 1 roller 7 hrs, 1 tractor/loader/backhoe 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 6 other general industrial equipment 6 hrs; 2 skid steer loaders 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Off-road Equipment - 2 aerial lifts 6 hrs; 1 crane 6 hrs; 1 other general industrial equipment 8 hrs; 1 tractor/loader/backhoe 6 hrs

Off-road Equipment - 2 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Trips and VMT - Anticipated Worker, Vendor and Haul Truck Trips Included

On-road Fugitive Dust - All public roads traveled to the Project will be paved. Travel on unpaved private road calculated elsewhere

Grading - Approx 51 ac graded total during access rd construc; Approx 1,722 ac graded total during grading

Vehicle Trips - Anticipated Worker, Vendor and Haul Truck Trips Included

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - *

Consumer Products - None

Area Coating - None

Energy Use - Project estimated 350 kW-hrs of electrical energy daily during HSAT

Water And Wastewater - 10 acre-ft per yr

Construction Off-road Equipment Mitigation - Watering will occur two time per day on exposed areas

Operational Off-Road Equipment - *

Fleet Mix - *

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	7,750.00	132.00
tblConstructionPhase	NumDays	7,750.00	132.00

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tblConstructionPhase	NumDays	7,750.00	42.00
tblConstructionPhase	NumDays	7,750.00	96.00
tblConstructionPhase	NumDays	7,750.00	90.00
tblConstructionPhase	NumDays	7,750.00	60.00
tblConstructionPhase	NumDays	7,750.00	54.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	775.00	36.00
tblConstructionPhase	NumDays	550.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	0.00	5.1100e-003
tblGrading	AcresOfGrading	21.00	51.00
tblGrading	AcresOfGrading	108.00	1,722.00
tblLandUse	LandUseSquareFeet	0.00	25,003,440.00
tblLandUse	LotAcreage	0.00	574.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

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tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
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tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
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tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00

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tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
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tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripLength	11.90	8.90
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tblTripsAndVMT	VendorTripNumber	3,527.00	0.00
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30

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tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
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tblTripsAndVMT	WorkerTripLength	10.20	7.30
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tblTripsAndVMT	WorkerTripNumber	9,038.00	32.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	16.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.02
tblVehicleTrips	WD_TR	0.00	0.02
tblWater	OutdoorWaterUseRate	0.00	3,258,510.00

2.0 Emissions Summary

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0478	0.3047	0.6169	1.3400e-003	0.0768	1.3500e-003	0.0782	0.0206	1.2800e-003	0.0219		136.5860	136.5860	0.0101		136.8384
Offroad	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565
Total	0.5858	5.6974	3.6737	0.0113	0.0768	0.1976	0.2745	0.0206	0.1819	0.2025		1,117.5102	1,117.5102	0.3208	0.0000	1,125.5290

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0478	0.3047	0.6169	1.3400e-003	0.0768	1.3500e-003	0.0782	0.0206	1.2800e-003	0.0219		136.5860	136.5860	0.0101		136.8384
Offroad	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565
Total	0.5858	5.6974	3.6737	0.0113	0.0768	0.1976	0.2745	0.0206	0.1819	0.2025		1,117.5102	1,117.5102	0.3208	0.0000	1,125.5290

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Construction	Grading	1/15/2018	3/4/2018	6	42	
2	Grading	Grading	3/5/2018	4/15/2018	6	36	
3	Rack Installation	Building Construction	4/16/2018	9/16/2018	6	132	
4	Solar Panel Installation	Building Construction	6/25/2018	11/24/2018	6	132	
5	GenTie Line Construction	Building Construction	7/2/2018	8/18/2018	6	42	
6	Substation Construction	Building Construction	7/2/2018	10/20/2018	6	96	
7	System Wiring and Trenching	Building Construction	8/27/2018	12/8/2018	6	90	
8	Inverter Installation	Building Construction	10/15/2018	12/23/2018	6	60	
9	Battery Facility Installation	Building Construction	10/22/2018	12/23/2018	6	54	
10	Paving	Paving	12/10/2018	12/23/2018	6	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1722

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Construction	Excavators	0	8.00	158	0.38
Access Road Construction	Graders	1	8.00	187	0.41
Access Road Construction	Off-Highway Trucks	1	8.00	402	0.38
Access Road Construction	Rollers	1	6.00	80	0.38
Access Road Construction	Rubber Tired Dozers	0	8.00	247	0.40
Access Road Construction	Scrapers	0	8.00	367	0.48

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

Access Road Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	2	6.00	158	0.38
Grading	Graders	2	6.00	187	0.41
Grading	Off-Highway Trucks	2	7.00	402	0.38
Grading	Rubber Tired Dozers	2	6.00	247	0.40
Grading	Scrapers	3	6.00	367	0.48
Grading	Skid Steer Loaders	2	6.00	65	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Rack Installation	Cranes	0	7.00	231	0.29
Rack Installation	Forklifts	0	8.00	89	0.20
Rack Installation	Generator Sets	1	8.00	84	0.74
Rack Installation	Off-Highway Trucks	1	6.00	402	0.38
Rack Installation	Other General Industrial Equipment	6	6.00	88	0.34
Rack Installation	Skid Steer Loaders	2	7.00	65	0.37
Rack Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Rack Installation	Welders	0	8.00	46	0.45
Solar Panal Installation	Cranes	0	7.00	231	0.29
Solar Panal Installation	Forklifts	0	8.00	89	0.20
Solar Panal Installation	Generator Sets	1	8.00	84	0.74
Solar Panal Installation	Off-Highway Trucks	1	6.00	402	0.38
Solar Panal Installation	Other General Industrial Equipment	1	8.00	88	0.34
Solar Panal Installation	Skid Steer Loaders	2	7.00	65	0.37
Solar Panal Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Solar Panal Installation	Trenchers	2	6.00	78	0.50
Solar Panal Installation	Welders	0	8.00	46	0.45
GenTie Line Construction	Aerial Lifts	3	4.00	63	0.31
GenTie Line Construction	Cranes	0	7.00	231	0.29

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GenTie Line Construction	Crawler Tractors	2	4.00	212	0.43
GenTie Line Construction	Forklifts	0	8.00	89	0.20
GenTie Line Construction	Generator Sets	0	8.00	84	0.74
GenTie Line Construction	Other General Industrial Equipment	1	8.00	88	0.34
GenTie Line Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
GenTie Line Construction	Welders	0	8.00	46	0.45
Substation Construction	Aerial Lifts	2	6.00	63	0.31
Substation Construction	Cranes	1	6.00	231	0.29
Substation Construction	Forklifts	0	8.00	89	0.20
Substation Construction	Generator Sets	0	8.00	84	0.74
Substation Construction	Other General Industrial Equipment	1	8.00	88	0.34
Substation Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Substation Construction	Welders	0	8.00	46	0.45
System Wiring and Trenching	Cranes	0	7.00	231	0.29
System Wiring and Trenching	Forklifts	0	8.00	89	0.20
System Wiring and Trenching	Generator Sets	2	8.00	84	0.74
System Wiring and Trenching	Off-Highway Trucks	1	6.00	402	0.38
System Wiring and Trenching	Other General Industrial Equipment	1	8.00	88	0.34
System Wiring and Trenching	Skid Steer Loaders	2	7.00	65	0.37
System Wiring and Trenching	Tractors/Loaders/Backhoes	0	7.00	97	0.37
System Wiring and Trenching	Trenchers	2	6.00	78	0.50
System Wiring and Trenching	Welders	0	8.00	46	0.45
Inverter Installation	Cranes	0	7.00	231	0.29
Inverter Installation	Forklifts	0	8.00	89	0.20
Inverter Installation	Generator Sets	1	8.00	84	0.74
Inverter Installation	Off-Highway Trucks	1	6.00	402	0.38
Inverter Installation	Other General Industrial Equipment	1	8.00	88	0.34

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Inverter Installation	Skid Steer Loaders	2	7.00	65	0.37
Inverter Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Inverter Installation	Welders	0	8.00	46	0.45
Battery Facility Installation	Cranes	0	7.00	231	0.29
Battery Facility Installation	Forklifts	0	8.00	89	0.20
Battery Facility Installation	Generator Sets	1	8.00	84	0.74
Battery Facility Installation	Off-Highway Trucks	1	6.00	402	0.38
Battery Facility Installation	Other General Industrial Equipment	1	8.00	88	0.34
Battery Facility Installation	Skid Steer Loaders	2	7.00	65	0.37
Battery Facility Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Battery Facility Installation	Trenchers	1	6.00	78	0.50
Battery Facility Installation	Welders	0	8.00	46	0.45
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Construction	3	12.00	0.00	12.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	15	104.00	6.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Rack Installation	10	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Solar Panel Installation	7	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
GenTie Line Construction	6	16.00	2.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Substation Construction	5	16.00	0.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
System Wiring and Trenching	8	32.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Inverter Installation	5	32.00	0.00	16.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Battery Facility Installation	6	16.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	12.00	0.00	8.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Access Road Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2878	0.0000	1.2878	0.1391	0.0000	0.1391			0.0000			0.0000
Off-Road	1.4865	17.3226	7.5679	0.0218		0.6643	0.6643		0.6111	0.6111		2,197.4812	2,197.4812	0.6841		2,214.5838
Total	1.4865	17.3226	7.5679	0.0218	1.2878	0.6643	1.9520	0.1391	0.6111	0.7502		2,197.4812	2,197.4812	0.6841		2,214.5838

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.2 Access Road Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0758	9.4400e-003	2.3000e-004	5.0100e-003	2.8000e-004	5.2900e-003	1.3700e-003	2.7000e-004	1.6500e-003		23.8550	23.8550	9.8000e-004		23.8795
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0976	0.0626	0.7258	7.3000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		72.3902	72.3902	6.9100e-003		72.5629
Total	0.0994	0.1384	0.7353	9.6000e-004	0.0717	7.7000e-004	0.0725	0.0191	7.2000e-004	0.0198		96.2451	96.2451	7.8900e-003		96.4423

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5795	0.0000	0.5795	0.0626	0.0000	0.0626			0.0000			0.0000
Off-Road	1.4865	17.3226	7.5679	0.0218		0.6643	0.6643		0.6111	0.6111	0.0000	2,197.4812	2,197.4812	0.6841		2,214.5838
Total	1.4865	17.3226	7.5679	0.0218	0.5795	0.6643	1.2437	0.0626	0.6111	0.6737	0.0000	2,197.4812	2,197.4812	0.6841		2,214.5838

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.2 Access Road Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0758	9.4400e-003	2.3000e-004	5.0100e-003	2.8000e-004	5.2900e-003	1.3700e-003	2.7000e-004	1.6500e-003		23.8550	23.8550	9.8000e-004		23.8795
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0976	0.0626	0.7258	7.3000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		72.3902	72.3902	6.9100e-003		72.5629
Total	0.0994	0.1384	0.7353	9.6000e-004	0.0717	7.7000e-004	0.0725	0.0191	7.2000e-004	0.0198		96.2451	96.2451	7.8900e-003		96.4423

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					59.7604	0.0000	59.7604	10.4427	0.0000	10.4427			0.0000			0.0000
Off-Road	7.4328	86.4391	47.0666	0.0955		3.6472	3.6472		3.3554	3.3554		9,613.1541	9,613.1541	2.9927		9,687.9717
Total	7.4328	86.4391	47.0666	0.0955	59.7604	3.6472	63.4076	10.4427	3.3554	13.7981		9,613.1541	9,613.1541	2.9927		9,687.9717

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.7000e-004	0.0295	3.6700e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.2769	9.2769	3.8000e-004		9.2865
Vendor	0.0349	0.8056	0.2447	1.9800e-003	0.0496	6.9900e-003	0.0566	0.0143	6.6900e-003	0.0210		206.9247	206.9247	0.0119		207.2219
Worker	0.8460	0.5421	6.2906	6.3700e-003	0.5778	4.2300e-003	0.5820	0.1533	3.9000e-003	0.1572		627.3813	627.3813	0.0599		628.8783
Total	0.8816	1.3772	6.5390	8.4400e-003	0.6293	0.0113	0.6406	0.1681	0.0107	0.1788		843.5830	843.5830	0.0721		845.3866

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					26.8922	0.0000	26.8922	4.6992	0.0000	4.6992			0.0000			0.0000
Off-Road	7.4328	86.4391	47.0666	0.0955		3.6472	3.6472		3.3554	3.3554	0.0000	9,613.1541	9,613.1541	2.9927		9,687.9717
Total	7.4328	86.4391	47.0666	0.0955	26.8922	3.6472	30.5394	4.6992	3.3554	8.0546	0.0000	9,613.1541	9,613.1541	2.9927		9,687.9717

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.7000e-004	0.0295	3.6700e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.2769	9.2769	3.8000e-004		9.2865
Vendor	0.0349	0.8056	0.2447	1.9800e-003	0.0496	6.9900e-003	0.0566	0.0143	6.6900e-003	0.0210		206.9247	206.9247	0.0119		207.2219
Worker	0.8460	0.5421	6.2906	6.3700e-003	0.5778	4.2300e-003	0.5820	0.1533	3.9000e-003	0.1572		627.3813	627.3813	0.0599		628.8783
Total	0.8816	1.3772	6.5390	8.4400e-003	0.6293	0.0113	0.6406	0.1681	0.0107	0.1788		843.5830	843.5830	0.0721		845.3866

3.4 Rack Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229		3,143.5262	3,143.5262	0.8296		3,164.2665
Total	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229		3,143.5262	3,143.5262	0.8296		3,164.2665

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.4 Rack Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0201	2.5000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.3252	6.3252	2.6000e-004		6.3317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9111	0.5838	6.7745	6.8600e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		675.6414	675.6414	0.0645		677.2536
Total	0.9116	0.6039	6.7770	6.9200e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		681.9666	681.9666	0.0648		683.5852

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229	0.0000	3,143.5262	3,143.5262	0.8296		3,164.2665
Total	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229	0.0000	3,143.5262	3,143.5262	0.8296		3,164.2665

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3.4 Rack Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0201	2.5000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.3252	6.3252	2.6000e-004		6.3317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9111	0.5838	6.7745	6.8600e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		675.6414	675.6414	0.0645		677.2536
Total	0.9116	0.6039	6.7770	6.9200e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		681.9666	681.9666	0.0648		683.5852

3.5 Solar Panel Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844		2,751.1017	2,751.1017	0.7075		2,768.7878
Total	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844		2,751.1017	2,751.1017	0.7075		2,768.7878

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.5 Solar Panel Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0201	2.5000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.3252	6.3252	2.6000e-004		6.3317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9111	0.5838	6.7745	6.8600e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		675.6414	675.6414	0.0645		677.2536
Total	0.9116	0.6039	6.7770	6.9200e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		681.9666	681.9666	0.0648		683.5852

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844	0.0000	2,751.1017	2,751.1017	0.7075		2,768.7878
Total	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844	0.0000	2,751.1017	2,751.1017	0.7075		2,768.7878

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3.5 Solar Panel Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.6000e-004	0.0201	2.5000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4000e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.3252	6.3252	2.6000e-004		6.3317
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9111	0.5838	6.7745	6.8600e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		675.6414	675.6414	0.0645		677.2536
Total	0.9116	0.6039	6.7770	6.9200e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		681.9666	681.9666	0.0648		683.5852

3.6 GenTie Line Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133		1,301.4771	1,301.4771	0.4052		1,311.6063
Total	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133		1,301.4771	1,301.4771	0.4052		1,311.6063

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3.6 GenTie Line Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0116	0.2685	0.0816	6.6000e-004	0.0165	2.3300e-003	0.0189	4.7600e-003	2.2300e-003	6.9800e-003		68.9749	68.9749	3.9600e-003		69.0740
Worker	0.1302	0.0834	0.9678	9.8000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		96.5202	96.5202	9.2100e-003		96.7505
Total	0.1418	0.3519	1.0494	1.6400e-003	0.1054	2.9800e-003	0.1084	0.0284	2.8300e-003	0.0312		165.4951	165.4951	0.0132		165.8245

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133	0.0000	1,301.4771	1,301.4771	0.4052		1,311.6063
Total	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133	0.0000	1,301.4771	1,301.4771	0.4052		1,311.6063

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.6 GenTie Line Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0116	0.2685	0.0816	6.6000e-004	0.0165	2.3300e-003	0.0189	4.7600e-003	2.2300e-003	6.9800e-003		68.9749	68.9749	3.9600e-003		69.0740
Worker	0.1302	0.0834	0.9678	9.8000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		96.5202	96.5202	9.2100e-003		96.7505
Total	0.1418	0.3519	1.0494	1.6400e-003	0.1054	2.9800e-003	0.1084	0.0284	2.8300e-003	0.0312		165.4951	165.4951	0.0132		165.8245

3.7 Substation Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495		1,181.1097	1,181.1097	0.3677		1,190.3020
Total	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495		1,181.1097	1,181.1097	0.3677		1,190.3020

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3.7 Substation Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5000e-004	0.0111	1.3800e-003	3.0000e-005	7.3000e-004	4.0000e-005	7.7000e-004	2.0000e-004	4.0000e-005	2.4000e-004		3.4789	3.4789	1.4000e-004		3.4824
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1302	0.0834	0.9678	9.8000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		96.5202	96.5202	9.2100e-003		96.7505
Total	0.1304	0.0945	0.9692	1.0100e-003	0.0896	6.9000e-004	0.0903	0.0238	6.4000e-004	0.0244		99.9991	99.9991	9.3500e-003		100.2329

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495	0.0000	1,181.1097	1,181.1097	0.3677		1,190.3020
Total	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495	0.0000	1,181.1097	1,181.1097	0.3677		1,190.3020

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3.7 Substation Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.5000e-004	0.0111	1.3800e-003	3.0000e-005	7.3000e-004	4.0000e-005	7.7000e-004	2.0000e-004	4.0000e-005	2.4000e-004		3.4789	3.4789	1.4000e-004		3.4824
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1302	0.0834	0.9678	9.8000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		96.5202	96.5202	9.2100e-003		96.7505
Total	0.1304	0.0945	0.9692	1.0100e-003	0.0896	6.9000e-004	0.0903	0.0238	6.4000e-004	0.0244		99.9991	99.9991	9.3500e-003		100.2329

3.8 System Wiring and Trenching - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464		3,374.1362	3,374.1362	0.7524		3,392.9461
Total	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464		3,374.1362	3,374.1362	0.7524		3,392.9461

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.8 System Wiring and Trenching - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.7000e-004	0.0295	3.6700e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.2769	9.2769	3.8000e-004		9.2865
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2603	0.1668	1.9356	1.9600e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		193.0404	193.0404	0.0184		193.5010
Total	0.2610	0.1963	1.9392	2.0500e-003	0.1797	1.4100e-003	0.1811	0.0477	1.3100e-003	0.0490		202.3173	202.3173	0.0188		202.7875

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464	0.0000	3,374.1362	3,374.1362	0.7524		3,392.9461
Total	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464	0.0000	3,374.1362	3,374.1362	0.7524		3,392.9461

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.8 System Wiring and Trenching - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.7000e-004	0.0295	3.6700e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.2769	9.2769	3.8000e-004		9.2865
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2603	0.1668	1.9356	1.9600e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		193.0404	193.0404	0.0184		193.5010
Total	0.2610	0.1963	1.9392	2.0500e-003	0.1797	1.4100e-003	0.1811	0.0477	1.3100e-003	0.0490		202.3173	202.3173	0.0188		202.7875

3.9 Inverter Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573		2,241.7046	2,241.7046	0.5489		2,255.4262
Total	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573		2,241.7046	2,241.7046	0.5489		2,255.4262

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.9 Inverter Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6100e-003	0.0708	8.8100e-003	2.1000e-004	4.6700e-003	2.7000e-004	4.9400e-003	1.2800e-003	2.5000e-004	1.5400e-003		22.2647	22.2647	9.1000e-004		22.2875
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2603	0.1668	1.9356	1.9600e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		193.0404	193.0404	0.0184		193.5010
Total	0.2619	0.2376	1.9444	2.1700e-003	0.1825	1.5700e-003	0.1840	0.0485	1.4500e-003	0.0499		215.3051	215.3051	0.0193		215.7885

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573	0.0000	2,241.7046	2,241.7046	0.5489		2,255.4262
Total	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573	0.0000	2,241.7046	2,241.7046	0.5489		2,255.4262

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3.9 Inverter Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6100e-003	0.0708	8.8100e-003	2.1000e-004	4.6700e-003	2.7000e-004	4.9400e-003	1.2800e-003	2.5000e-004	1.5400e-003		22.2647	22.2647	9.1000e-004		22.2875
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2603	0.1668	1.9356	1.9600e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		193.0404	193.0404	0.0184		193.5010
Total	0.2619	0.2376	1.9444	2.1700e-003	0.1825	1.5700e-003	0.1840	0.0485	1.4500e-003	0.0499		215.3051	215.3051	0.0193		215.7885

3.10 Battery Facility Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709		2,496.4031	2,496.4031	0.6282		2,512.1070
Total	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709		2,496.4031	2,496.4031	0.6282		2,512.1070

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3.10 Battery Facility Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1200e-003	0.0491	6.1200e-003	1.5000e-004	3.2500e-003	1.8000e-004	3.4300e-003	8.9000e-004	1.8000e-004	1.0700e-003		15.4616	15.4616	6.3000e-004		15.4774
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1302	0.0834	0.9678	9.8000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		96.5202	96.5202	9.2100e-003		96.7505
Total	0.1313	0.1325	0.9739	1.1300e-003	0.0921	8.3000e-004	0.0930	0.0245	7.8000e-004	0.0253		111.9818	111.9818	9.8400e-003		112.2279

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709	0.0000	2,496.4031	2,496.4031	0.6282		2,512.1070
Total	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709	0.0000	2,496.4031	2,496.4031	0.6282		2,512.1070

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3.10 Battery Facility Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1200e-003	0.0491	6.1200e-003	1.5000e-004	3.2500e-003	1.8000e-004	3.4300e-003	8.9000e-004	1.8000e-004	1.0700e-003		15.4616	15.4616	6.3000e-004		15.4774
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1302	0.0834	0.9678	9.8000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		96.5202	96.5202	9.2100e-003		96.7505
Total	0.1313	0.1325	0.9739	1.1300e-003	0.0921	8.3000e-004	0.0930	0.0245	7.8000e-004	0.0253		111.9818	111.9818	9.8400e-003		112.2279

3.11 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300		918.5883	918.5883	0.2860		925.7375
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300		918.5883	918.5883	0.2860		925.7375

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.11 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.0300e-003	0.1769	0.0220	5.3000e-004	0.0117	6.6000e-004	0.0124	3.2100e-003	6.4000e-004	3.8400e-003		55.6617	55.6617	2.2800e-003		55.7187
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0976	0.0626	0.7258	7.3000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		72.3902	72.3902	6.9100e-003		72.5629
Total	0.1017	0.2395	0.7479	1.2600e-003	0.0784	1.1500e-003	0.0795	0.0209	1.0900e-003	0.0220		128.0518	128.0518	9.1900e-003		128.2816

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300	0.0000	918.5883	918.5883	0.2860		925.7375
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300	0.0000	918.5883	918.5883	0.2860		925.7375

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

3.11 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.0300e-003	0.1769	0.0220	5.3000e-004	0.0117	6.6000e-004	0.0124	3.2100e-003	6.4000e-004	3.8400e-003		55.6617	55.6617	2.2800e-003		55.7187
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0976	0.0626	0.7258	7.3000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		72.3902	72.3902	6.9100e-003		72.5629
Total	0.1017	0.2395	0.7479	1.2600e-003	0.0784	1.1500e-003	0.0795	0.0209	1.0900e-003	0.0220		128.0518	128.0518	9.1900e-003		128.2816

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0478	0.3047	0.6169	1.3400e-003	0.0768	1.3500e-003	0.0782	0.0206	1.2800e-003	0.0219		136.5860	136.5860	0.0101		136.8384
Unmitigated	0.0478	0.3047	0.6169	1.3400e-003	0.0768	1.3500e-003	0.0782	0.0206	1.2800e-003	0.0219		136.5860	136.5860	0.0101		136.8384

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	10.33	10.33	0.00	30,624	30,624
Total	10.33	10.33	0.00	30,624	30,624

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.40	9.50	11.90	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.496955	0.034284	0.161364	0.135255	0.020348	0.005532	0.018848	0.116417	0.003114	0.001145	0.005203	0.000754	0.000782

5.0 Energy Detail

Historical Energy Use: N

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Unmitigated	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Total	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Total	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341

7.0 Water Detail

7.1 Mitigation Measures Water

Vega SES LLC Solar Project - HSAT - Imperial County, Summer

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	6.00	260	402	0.38	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Trucks	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565
Total	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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Vega SES LLC Solar Project - HSAT - Imperial County, Summer

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

ATTACHMENT B-2

VEGA SES LLC SOLAR PROJECT

CONSTRUCTION & OPERATION ACTIVITIES

CalEEMod MODEL OUTPUTS - WINTER
MODEL "VEGA SOLAR PROJECT CALEEMOD V20 HSAT.xls"

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

Vega SES LLC Solar Project - HSAT
Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	574.00	User Defined Unit	574.00	25,003,440.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	12
Climate Zone	15			Operational Year	2019
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MW hr)	1270.9	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - *

Land Use - Located on up to approximately 574 acres of land

Construction Phase - Anticipated Construction Schedule

Off-road Equipment - 1 grader 8 hrs; 1 off-highway (water) truck 8 hrs, 1 roller 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 1 trenchers 6 hrs

Off-road Equipment - 8

Off-road Equipment - 3 aerial lifts 4 hrs; 2 crawler tractors 4 hrs; 1 other general industrial equipment 8 hrs

Off-road Equipment - 2 excavators 6 hrs; 2 graders 6 hrs; 2 off-highway (water) truck 7 hrs, 2 rubber tired dozers 6 hrs; 3 scrapers 6 hrs; 2 skid steer loaders 6 hrs; 2 tractor/loader/backhoe 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs

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Off-road Equipment - 1 pavers set 7 hrs; 1 roller 7 hrs, 1 tractor/loader/backhoe 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 6 other general industrial equipment 6 hrs; 2 skid steer loaders 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Off-road Equipment - 2 aerial lifts 6 hrs; 1 crane 6 hrs; 1 other general industrial equipment 8 hrs; 1 tractor/loader/backhoe 6 hrs

Off-road Equipment - 2 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Trips and VMT - Anticipated Worker, Vendor and Haul Truck Trips Included

On-road Fugitive Dust - All public roads traveled to the Project will be paved. Travel on unpaved private road calculated elsewhere

Grading - Approx 51 ac graded total during access rd construc; Approx 1,722 ac graded total during grading

Vehicle Trips - Anticipated Worker, Vendor and Haul Truck Trips Included

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - *

Consumer Products - None

Area Coating - None

Energy Use - Project estimated 350 kW-hrs of electrical energy daily during HSAT

Water And Wastewater - 10 acre-ft per yr

Construction Off-road Equipment Mitigation - Watering will occur two time per day on exposed areas

Operational Off-Road Equipment - *

Fleet Mix - *

Table Name	Column Name	Default Value	New Value
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tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
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tblConstructionPhase	NumDays	7,750.00	132.00

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tblConstructionPhase	NumDays	7,750.00	96.00
tblConstructionPhase	NumDays	7,750.00	90.00
tblConstructionPhase	NumDays	7,750.00	60.00
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tblGrading	AcresOfGrading	108.00	1,722.00
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Vega SES LLC Solar Project - HSAT - Imperial County, Winter

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Vega SES LLC Solar Project - HSAT - Imperial County, Winter

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Vega SES LLC Solar Project - HSAT - Imperial County, Winter

tblTripsAndVMT	HaulingTripNumber	0.00	4.00
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tblTripsAndVMT	WorkerTripNumber	9,038.00	112.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	16.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	16.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	32.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	32.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	16.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.02
tblVehicleTrips	WD_TR	0.00	0.02
tblWater	OutdoorWaterUseRate	0.00	3,258,510.00

2.0 Emissions Summary

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0370	0.3116	0.4778	1.2000e-003	0.0768	1.3700e-003	0.0782	0.0206	1.3000e-003	0.0219		122.5918	122.5918	9.4900e-003		122.8290
Offroad	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565
Total	0.5750	5.7043	3.5346	0.0111	0.0768	0.1977	0.2745	0.0206	0.1819	0.2025		1,103.5161	1,103.5161	0.3201	0.0000	1,111.5196

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0370	0.3116	0.4778	1.2000e-003	0.0768	1.3700e-003	0.0782	0.0206	1.3000e-003	0.0219		122.5918	122.5918	9.4900e-003		122.8290
Offroad	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565
Total	0.5750	5.7043	3.5346	0.0111	0.0768	0.1977	0.2745	0.0206	0.1819	0.2025		1,103.5161	1,103.5161	0.3201	0.0000	1,111.5196

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Construction	Grading	1/15/2018	3/4/2018	6	42	
2	Grading	Grading	3/5/2018	4/15/2018	6	36	
3	Rack Installation	Building Construction	4/16/2018	9/16/2018	6	132	
4	Solar Panel Installation	Building Construction	6/25/2018	11/24/2018	6	132	
5	GenTie Line Construction	Building Construction	7/2/2018	8/18/2018	6	42	
6	Substation Construction	Building Construction	7/2/2018	10/20/2018	6	96	
7	System Wiring and Trenching	Building Construction	8/27/2018	12/8/2018	6	90	
8	Inverter Installation	Building Construction	10/15/2018	12/23/2018	6	60	
9	Battery Facility Installation	Building Construction	10/22/2018	12/23/2018	6	54	
10	Paving	Paving	12/10/2018	12/23/2018	6	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1722

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Construction	Excavators	0	8.00	158	0.38
Access Road Construction	Graders	1	8.00	187	0.41
Access Road Construction	Off-Highway Trucks	1	8.00	402	0.38
Access Road Construction	Rollers	1	6.00	80	0.38
Access Road Construction	Rubber Tired Dozers	0	8.00	247	0.40
Access Road Construction	Scrapers	0	8.00	367	0.48

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

Access Road Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	2	6.00	158	0.38
Grading	Graders	2	6.00	187	0.41
Grading	Off-Highway Trucks	2	7.00	402	0.38
Grading	Rubber Tired Dozers	2	6.00	247	0.40
Grading	Scrapers	3	6.00	367	0.48
Grading	Skid Steer Loaders	2	6.00	65	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Rack Installation	Cranes	0	7.00	231	0.29
Rack Installation	Forklifts	0	8.00	89	0.20
Rack Installation	Generator Sets	1	8.00	84	0.74
Rack Installation	Off-Highway Trucks	1	6.00	402	0.38
Rack Installation	Other General Industrial Equipment	6	6.00	88	0.34
Rack Installation	Skid Steer Loaders	2	7.00	65	0.37
Rack Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Rack Installation	Welders	0	8.00	46	0.45
Solar Panal Installation	Cranes	0	7.00	231	0.29
Solar Panal Installation	Forklifts	0	8.00	89	0.20
Solar Panal Installation	Generator Sets	1	8.00	84	0.74
Solar Panal Installation	Off-Highway Trucks	1	6.00	402	0.38
Solar Panal Installation	Other General Industrial Equipment	1	8.00	88	0.34
Solar Panal Installation	Skid Steer Loaders	2	7.00	65	0.37
Solar Panal Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Solar Panal Installation	Trenchers	2	6.00	78	0.50
Solar Panal Installation	Welders	0	8.00	46	0.45
GenTie Line Construction	Aerial Lifts	3	4.00	63	0.31
GenTie Line Construction	Cranes	0	7.00	231	0.29

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

GenTie Line Construction	Crawler Tractors	2	4.00	212	0.43
GenTie Line Construction	Forklifts	0	8.00	89	0.20
GenTie Line Construction	Generator Sets	0	8.00	84	0.74
GenTie Line Construction	Other General Industrial Equipment	1	8.00	88	0.34
GenTie Line Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
GenTie Line Construction	Welders	0	8.00	46	0.45
Substation Construction	Aerial Lifts	2	6.00	63	0.31
Substation Construction	Cranes	1	6.00	231	0.29
Substation Construction	Forklifts	0	8.00	89	0.20
Substation Construction	Generator Sets	0	8.00	84	0.74
Substation Construction	Other General Industrial Equipment	1	8.00	88	0.34
Substation Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Substation Construction	Welders	0	8.00	46	0.45
System Wiring and Trenching	Cranes	0	7.00	231	0.29
System Wiring and Trenching	Forklifts	0	8.00	89	0.20
System Wiring and Trenching	Generator Sets	2	8.00	84	0.74
System Wiring and Trenching	Off-Highway Trucks	1	6.00	402	0.38
System Wiring and Trenching	Other General Industrial Equipment	1	8.00	88	0.34
System Wiring and Trenching	Skid Steer Loaders	2	7.00	65	0.37
System Wiring and Trenching	Tractors/Loaders/Backhoes	0	7.00	97	0.37
System Wiring and Trenching	Trenchers	2	6.00	78	0.50
System Wiring and Trenching	Welders	0	8.00	46	0.45
Inverter Installation	Cranes	0	7.00	231	0.29
Inverter Installation	Forklifts	0	8.00	89	0.20
Inverter Installation	Generator Sets	1	8.00	84	0.74
Inverter Installation	Off-Highway Trucks	1	6.00	402	0.38
Inverter Installation	Other General Industrial Equipment	1	8.00	88	0.34

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

Inverter Installation	Skid Steer Loaders	2	7.00	65	0.37
Inverter Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Inverter Installation	Welders	0	8.00	46	0.45
Battery Facility Installation	Cranes	0	7.00	231	0.29
Battery Facility Installation	Forklifts	0	8.00	89	0.20
Battery Facility Installation	Generator Sets	1	8.00	84	0.74
Battery Facility Installation	Off-Highway Trucks	1	6.00	402	0.38
Battery Facility Installation	Other General Industrial Equipment	1	8.00	88	0.34
Battery Facility Installation	Skid Steer Loaders	2	7.00	65	0.37
Battery Facility Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Battery Facility Installation	Trenchers	1	6.00	78	0.50
Battery Facility Installation	Welders	0	8.00	46	0.45
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Construction	3	12.00	0.00	12.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	15	104.00	6.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Rack Installation	10	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Solar Panel Installation	7	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
GenTie Line Construction	6	16.00	2.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Substation Construction	5	16.00	0.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
System Wiring and Trenching	8	32.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Inverter Installation	5	32.00	0.00	16.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Battery Facility Installation	6	16.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	12.00	0.00	8.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Access Road Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2878	0.0000	1.2878	0.1391	0.0000	0.1391			0.0000			0.0000
Off-Road	1.4865	17.3226	7.5679	0.0218		0.6643	0.6643		0.6111	0.6111		2,197.4812	2,197.4812	0.6841		2,214.5838
Total	1.4865	17.3226	7.5679	0.0218	1.2878	0.6643	1.9520	0.1391	0.6111	0.7502		2,197.4812	2,197.4812	0.6841		2,214.5838

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.2 Access Road Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8300e-003	0.0784	0.0113	2.2000e-004	5.0100e-003	2.9000e-004	5.3000e-003	1.3700e-003	2.8000e-004	1.6500e-003		23.1675	23.1675	1.0900e-003		23.1948
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0658	0.5498	6.2000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		60.7415	60.7415	5.5800e-003		60.8809
Total	0.0800	0.1442	0.5611	8.4000e-004	0.0717	7.8000e-004	0.0725	0.0191	7.3000e-004	0.0198		83.9090	83.9090	6.6700e-003		84.0757

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5795	0.0000	0.5795	0.0626	0.0000	0.0626			0.0000			0.0000
Off-Road	1.4865	17.3226	7.5679	0.0218		0.6643	0.6643		0.6111	0.6111	0.0000	2,197.4812	2,197.4812	0.6841		2,214.5838
Total	1.4865	17.3226	7.5679	0.0218	0.5795	0.6643	1.2437	0.0626	0.6111	0.6737	0.0000	2,197.4812	2,197.4812	0.6841		2,214.5838

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.2 Access Road Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8300e-003	0.0784	0.0113	2.2000e-004	5.0100e-003	2.9000e-004	5.3000e-003	1.3700e-003	2.8000e-004	1.6500e-003		23.1675	23.1675	1.0900e-003		23.1948
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0658	0.5498	6.2000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		60.7415	60.7415	5.5800e-003		60.8809
Total	0.0800	0.1442	0.5611	8.4000e-004	0.0717	7.8000e-004	0.0725	0.0191	7.3000e-004	0.0198		83.9090	83.9090	6.6700e-003		84.0757

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					59.7604	0.0000	59.7604	10.4427	0.0000	10.4427			0.0000			0.0000
Off-Road	7.4328	86.4391	47.0666	0.0955		3.6472	3.6472		3.3554	3.3554		9,613.1541	9,613.1541	2.9927		9,687.9717
Total	7.4328	86.4391	47.0666	0.0955	59.7604	3.6472	63.4076	10.4427	3.3554	13.7981		9,613.1541	9,613.1541	2.9927		9,687.9717

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.1000e-004	0.0305	4.4100e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.0096	9.0096	4.3000e-004		9.0202
Vendor	0.0359	0.8282	0.2721	1.9100e-003	0.0496	7.0700e-003	0.0566	0.0143	6.7700e-003	0.0210		199.5774	199.5774	0.0131		199.9055
Worker	0.6776	0.5704	4.7646	5.3400e-003	0.5778	4.2300e-003	0.5820	0.1533	3.9000e-003	0.1572		526.4264	526.4264	0.0483		527.6347
Total	0.7142	1.4290	5.0412	7.3400e-003	0.6293	0.0114	0.6407	0.1681	0.0108	0.1789		735.0134	735.0134	0.0619		736.5604

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					26.8922	0.0000	26.8922	4.6992	0.0000	4.6992			0.0000			0.0000
Off-Road	7.4328	86.4391	47.0666	0.0955		3.6472	3.6472		3.3554	3.3554	0.0000	9,613.1541	9,613.1541	2.9927		9,687.9717
Total	7.4328	86.4391	47.0666	0.0955	26.8922	3.6472	30.5394	4.6992	3.3554	8.0546	0.0000	9,613.1541	9,613.1541	2.9927		9,687.9717

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.1000e-004	0.0305	4.4100e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.0096	9.0096	4.3000e-004		9.0202
Vendor	0.0359	0.8282	0.2721	1.9100e-003	0.0496	7.0700e-003	0.0566	0.0143	6.7700e-003	0.0210		199.5774	199.5774	0.0131		199.9055
Worker	0.6776	0.5704	4.7646	5.3400e-003	0.5778	4.2300e-003	0.5820	0.1533	3.9000e-003	0.1572		526.4264	526.4264	0.0483		527.6347
Total	0.7142	1.4290	5.0412	7.3400e-003	0.6293	0.0114	0.6407	0.1681	0.0108	0.1789		735.0134	735.0134	0.0619		736.5604

3.4 Rack Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229		3,143.5262	3,143.5262	0.8296		3,164.2665
Total	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229		3,143.5262	3,143.5262	0.8296		3,164.2665

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.4 Rack Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0208	3.0000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4100e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.1429	6.1429	2.9000e-004		6.1501
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7297	0.6142	5.1311	5.7500e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		566.9208	566.9208	0.0521		568.2219
Total	0.7302	0.6350	5.1341	5.8100e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		573.0637	573.0637	0.0523		574.3721

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229	0.0000	3,143.5262	3,143.5262	0.8296		3,164.2665
Total	2.5690	24.2454	18.5396	0.0316		1.5238	1.5238		1.4229	1.4229	0.0000	3,143.5262	3,143.5262	0.8296		3,164.2665

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.4 Rack Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0208	3.0000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4100e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.1429	6.1429	2.9000e-004		6.1501
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7297	0.6142	5.1311	5.7500e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		566.9208	566.9208	0.0521		568.2219
Total	0.7302	0.6350	5.1341	5.8100e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		573.0637	573.0637	0.0523		574.3721

3.5 Solar Panal Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844		2,751.1017	2,751.1017	0.7075		2,768.7878
Total	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844		2,751.1017	2,751.1017	0.7075		2,768.7878

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.5 Solar Panel Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0208	3.0000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4100e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.1429	6.1429	2.9000e-004		6.1501
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7297	0.6142	5.1311	5.7500e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		566.9208	566.9208	0.0521		568.2219
Total	0.7302	0.6350	5.1341	5.8100e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		573.0637	573.0637	0.0523		574.3721

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844	0.0000	2,751.1017	2,751.1017	0.7075		2,768.7878
Total	2.2187	21.1978	15.3575	0.0277		1.2646	1.2646		1.1844	1.1844	0.0000	2,751.1017	2,751.1017	0.7075		2,768.7878

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.5 Solar Panel Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8000e-004	0.0208	3.0000e-003	6.0000e-005	1.3300e-003	8.0000e-005	1.4100e-003	3.6000e-004	7.0000e-005	4.4000e-004		6.1429	6.1429	2.9000e-004		6.1501
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7297	0.6142	5.1311	5.7500e-003	0.6223	4.5500e-003	0.6268	0.1651	4.2000e-003	0.1693		566.9208	566.9208	0.0521		568.2219
Total	0.7302	0.6350	5.1341	5.8100e-003	0.6236	4.6300e-003	0.6282	0.1655	4.2700e-003	0.1697		573.0637	573.0637	0.0523		574.3721

3.6 GenTie Line Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133		1,301.4771	1,301.4771	0.4052		1,311.6063
Total	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133		1,301.4771	1,301.4771	0.4052		1,311.6063

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.6 GenTie Line Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0120	0.2761	0.0907	6.4000e-004	0.0165	2.3600e-003	0.0189	4.7600e-003	2.2600e-003	7.0100e-003		66.5258	66.5258	4.3700e-003		66.6352
Worker	0.1042	0.0878	0.7330	8.2000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		80.9887	80.9887	7.4400e-003		81.1746
Total	0.1162	0.3638	0.8237	1.4600e-003	0.1054	3.0100e-003	0.1084	0.0284	2.8600e-003	0.0312		147.5145	147.5145	0.0118		147.8097

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133	0.0000	1,301.4771	1,301.4771	0.4052		1,311.6063
Total	0.9974	12.1853	6.3403	0.0129		0.5579	0.5579		0.5133	0.5133	0.0000	1,301.4771	1,301.4771	0.4052		1,311.6063

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.6 GenTie Line Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0120	0.2761	0.0907	6.4000e-004	0.0165	2.3600e-003	0.0189	4.7600e-003	2.2600e-003	7.0100e-003		66.5258	66.5258	4.3700e-003		66.6352
Worker	0.1042	0.0878	0.7330	8.2000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		80.9887	80.9887	7.4400e-003		81.1746
Total	0.1162	0.3638	0.8237	1.4600e-003	0.1054	3.0100e-003	0.1084	0.0284	2.8600e-003	0.0312		147.5145	147.5145	0.0118		147.8097

3.7 Substation Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495		1,181.1097	1,181.1097	0.3677		1,190.3020
Total	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495		1,181.1097	1,181.1097	0.3677		1,190.3020

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.7 Substation Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7000e-004	0.0114	1.6500e-003	3.0000e-005	7.3000e-004	4.0000e-005	7.7000e-004	2.0000e-004	4.0000e-005	2.4000e-004		3.3786	3.3786	1.6000e-004		3.3826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1042	0.0878	0.7330	8.2000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		80.9887	80.9887	7.4400e-003		81.1746
Total	0.1045	0.0992	0.7347	8.5000e-004	0.0896	6.9000e-004	0.0903	0.0238	6.4000e-004	0.0244		84.3673	84.3673	7.6000e-003		84.5571

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495	0.0000	1,181.1097	1,181.1097	0.3677		1,190.3020
Total	0.9847	10.7686	7.3257	0.0117		0.5973	0.5973		0.5495	0.5495	0.0000	1,181.1097	1,181.1097	0.3677		1,190.3020

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.7 Substation Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7000e-004	0.0114	1.6500e-003	3.0000e-005	7.3000e-004	4.0000e-005	7.7000e-004	2.0000e-004	4.0000e-005	2.4000e-004		3.3786	3.3786	1.6000e-004		3.3826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1042	0.0878	0.7330	8.2000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		80.9887	80.9887	7.4400e-003		81.1746
Total	0.1045	0.0992	0.7347	8.5000e-004	0.0896	6.9000e-004	0.0903	0.0238	6.4000e-004	0.0244		84.3673	84.3673	7.6000e-003		84.5571

3.8 System Wiring and Trenching - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464		3,374.1362	3,374.1362	0.7524		3,392.9461
Total	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464		3,374.1362	3,374.1362	0.7524		3,392.9461

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.8 System Wiring and Trenching - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.1000e-004	0.0305	4.4100e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.0096	9.0096	4.3000e-004		9.0202
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2085	0.1755	1.4660	1.6400e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		161.9774	161.9774	0.0149		162.3491
Total	0.2092	0.2060	1.4705	1.7300e-003	0.1797	1.4100e-003	0.1811	0.0477	1.3100e-003	0.0490		170.9869	170.9869	0.0153		171.3693

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464	0.0000	3,374.1362	3,374.1362	0.7524		3,392.9461
Total	2.7241	25.3111	19.1047	0.0343		1.5266	1.5266		1.4464	1.4464	0.0000	3,374.1362	3,374.1362	0.7524		3,392.9461

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.8 System Wiring and Trenching - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.1000e-004	0.0305	4.4100e-003	9.0000e-005	1.9500e-003	1.1000e-004	2.0600e-003	5.3000e-004	1.1000e-004	6.4000e-004		9.0096	9.0096	4.3000e-004		9.0202
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2085	0.1755	1.4660	1.6400e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		161.9774	161.9774	0.0149		162.3491
Total	0.2092	0.2060	1.4705	1.7300e-003	0.1797	1.4100e-003	0.1811	0.0477	1.3100e-003	0.0490		170.9869	170.9869	0.0153		171.3693

3.9 Inverter Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573		2,241.7046	2,241.7046	0.5489		2,255.4262
Total	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573		2,241.7046	2,241.7046	0.5489		2,255.4262

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.9 Inverter Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7100e-003	0.0732	0.0106	2.1000e-004	4.6700e-003	2.7000e-004	4.9500e-003	1.2800e-003	2.6000e-004	1.5400e-003		21.6230	21.6230	1.0200e-003		21.6485
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2085	0.1755	1.4660	1.6400e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		161.9774	161.9774	0.0149		162.3491
Total	0.2102	0.2487	1.4766	1.8500e-003	0.1825	1.5700e-003	0.1840	0.0485	1.4600e-003	0.0499		183.6003	183.6003	0.0159		183.9976

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573	0.0000	2,241.7046	2,241.7046	0.5489		2,255.4262
Total	1.5397	15.0946	11.3802	0.0227		0.8004	0.8004		0.7573	0.7573	0.0000	2,241.7046	2,241.7046	0.5489		2,255.4262

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.9 Inverter Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7100e-003	0.0732	0.0106	2.1000e-004	4.6700e-003	2.7000e-004	4.9500e-003	1.2800e-003	2.6000e-004	1.5400e-003		21.6230	21.6230	1.0200e-003		21.6485
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2085	0.1755	1.4660	1.6400e-003	0.1778	1.3000e-003	0.1791	0.0472	1.2000e-003	0.0484		161.9774	161.9774	0.0149		162.3491
Total	0.2102	0.2487	1.4766	1.8500e-003	0.1825	1.5700e-003	0.1840	0.0485	1.4600e-003	0.0499		183.6003	183.6003	0.0159		183.9976

3.10 Battery Facility Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709		2,496.4031	2,496.4031	0.6282		2,512.1070
Total	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709		2,496.4031	2,496.4031	0.6282		2,512.1070

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.10 Battery Facility Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1900e-003	0.0508	7.3400e-003	1.4000e-004	3.2500e-003	1.9000e-004	3.4400e-003	8.9000e-004	1.8000e-004	1.0700e-003		15.0160	15.0160	7.1000e-004		15.0337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1042	0.0878	0.7330	8.2000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		80.9887	80.9887	7.4400e-003		81.1746
Total	0.1054	0.1386	0.7404	9.6000e-004	0.0921	8.4000e-004	0.0930	0.0245	7.8000e-004	0.0253		96.0046	96.0046	8.1500e-003		96.2082

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709	0.0000	2,496.4031	2,496.4031	0.6282		2,512.1070
Total	1.8792	18.1462	13.3689	0.0252		1.0325	1.0325		0.9709	0.9709	0.0000	2,496.4031	2,496.4031	0.6282		2,512.1070

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3.10 Battery Facility Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1900e-003	0.0508	7.3400e-003	1.4000e-004	3.2500e-003	1.9000e-004	3.4400e-003	8.9000e-004	1.8000e-004	1.0700e-003		15.0160	15.0160	7.1000e-004		15.0337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1042	0.0878	0.7330	8.2000e-004	0.0889	6.5000e-004	0.0895	0.0236	6.0000e-004	0.0242		80.9887	80.9887	7.4400e-003		81.1746
Total	0.1054	0.1386	0.7404	9.6000e-004	0.0921	8.4000e-004	0.0930	0.0245	7.8000e-004	0.0253		96.0046	96.0046	8.1500e-003		96.2082

3.11 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300		918.5883	918.5883	0.2860		925.7375
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300		918.5883	918.5883	0.2860		925.7375

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.11 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.2700e-003	0.1830	0.0264	5.2000e-004	0.0117	6.8000e-004	0.0124	3.2100e-003	6.5000e-004	3.8600e-003		54.0574	54.0574	2.5500e-003		54.1212
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0658	0.5498	6.2000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		60.7415	60.7415	5.5800e-003		60.8809
Total	0.0825	0.2488	0.5762	1.1400e-003	0.0784	1.1700e-003	0.0795	0.0209	1.1000e-003	0.0220		114.7989	114.7989	8.1300e-003		115.0022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300	0.0000	918.5883	918.5883	0.2860		925.7375
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7439	7.6402	6.2989	9.1300e-003		0.4674	0.4674		0.4300	0.4300	0.0000	918.5883	918.5883	0.2860		925.7375

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

3.11 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.2700e-003	0.1830	0.0264	5.2000e-004	0.0117	6.8000e-004	0.0124	3.2100e-003	6.5000e-004	3.8600e-003		54.0574	54.0574	2.5500e-003		54.1212
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0658	0.5498	6.2000e-004	0.0667	4.9000e-004	0.0672	0.0177	4.5000e-004	0.0181		60.7415	60.7415	5.5800e-003		60.8809
Total	0.0825	0.2488	0.5762	1.1400e-003	0.0784	1.1700e-003	0.0795	0.0209	1.1000e-003	0.0220		114.7989	114.7989	8.1300e-003		115.0022

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0370	0.3116	0.4778	1.2000e-003	0.0768	1.3700e-003	0.0782	0.0206	1.3000e-003	0.0219		122.5918	122.5918	9.4900e-003		122.8290
Unmitigated	0.0370	0.3116	0.4778	1.2000e-003	0.0768	1.3700e-003	0.0782	0.0206	1.3000e-003	0.0219		122.5918	122.5918	9.4900e-003		122.8290

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	10.33	10.33	0.00	30,624	30,624
Total	10.33	10.33	0.00	30,624	30,624

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.40	9.50	11.90	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.496955	0.034284	0.161364	0.135255	0.020348	0.005532	0.018848	0.116417	0.003114	0.001145	0.005203	0.000754	0.000782

5.0 Energy Detail

Historical Energy Use: N

Vega SES LLC Solar Project - HSAT - Imperial County, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Unmitigated	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Total	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341
Total	5.6100e-003	5.5000e-004	0.0592	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		0.1256	0.1256	3.4000e-004		0.1341

7.0 Water Detail

7.1 Mitigation Measures Water

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8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	6.00	260	402	0.38	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Trucks	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565
Total	0.5324	5.3922	2.9976	9.9100e-003		0.1961	0.1961		0.1804	0.1804		980.7986	980.7986	0.3103		988.5565

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

ATTACHMENT B-3

VEGA SES LLC SOLAR PROJECT

CONSTRUCTION & OPERATION ACTIVITIES

CalEEMod MODEL OUTPUTS - ANNUAL
MODEL "VEGA SOLAR PROJECT CALEEMOD V20 HSAT.xls"

Vega SES LLC Solar Project - HSAT - Imperial County, Annual

Vega SES LLC Solar Project - HSAT
Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	574.00	User Defined Unit	574.00	25,003,440.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	12
Climate Zone	15			Operational Year	2019
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MW hr)	1270.9	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - *

Land Use - Located on up to approximately 574 acres of land

Construction Phase - Anticipated Construction Schedule

Off-road Equipment - 1 grader 8 hrs; 1 off-highway (water) truck 8 hrs, 1 roller 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 1 trenchers 6 hrs

Off-road Equipment - 8

Off-road Equipment - 3 aerial lifts 4 hrs; 2 crawler tractors 4 hrs; 1 other general industrial equipment 8 hrs

Off-road Equipment - 2 excavators 6 hrs; 2 graders 6 hrs; 2 off-highway (water) truck 7 hrs, 2 rubber tired dozers 6 hrs; 3 scrapers 6 hrs; 2 skid steer loaders 6 hrs; 2 tractor/loader/backhoe 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs

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Off-road Equipment - 1 pavers set 7 hrs; 1 roller 7 hrs, 1 tractor/loader/backhoe 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 6 other general industrial equipment 6 hrs; 2 skid steer loaders 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Off-road Equipment - 2 aerial lifts 6 hrs; 1 crane 6 hrs; 1 other general industrial equipment 8 hrs; 1 tractor/loader/backhoe 6 hrs

Off-road Equipment - 2 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Trips and VMT - Anticipated Worker, Vendor and Haul Truck Trips Included

On-road Fugitive Dust - All public roads traveled to the Project will be paved. Travel on unpaved private road calculated elsewhere

Grading - Approx 51 ac graded total during access rd construc; Approx 1,722 ac graded total during grading

Vehicle Trips - Anticipated Worker, Vendor and Haul Truck Trips Included

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - *

Consumer Products - None

Area Coating - None

Energy Use - Project estimated 350 kW-hrs of electrical energy daily during HSAT

Water And Wastewater - 10 acre-ft per yr

Construction Off-road Equipment Mitigation - Watering will occur two time per day on exposed areas

Operational Off-Road Equipment - *

Fleet Mix - *

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	7,750.00	132.00
tblConstructionPhase	NumDays	7,750.00	132.00

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tblConstructionPhase	NumDays	7,750.00	42.00
tblConstructionPhase	NumDays	7,750.00	96.00
tblConstructionPhase	NumDays	7,750.00	90.00
tblConstructionPhase	NumDays	7,750.00	60.00
tblConstructionPhase	NumDays	7,750.00	54.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	775.00	36.00
tblConstructionPhase	NumDays	550.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	0.00	5.1100e-003
tblGrading	AcresOfGrading	21.00	51.00
tblGrading	AcresOfGrading	108.00	1,722.00
tblLandUse	LandUseSquareFeet	0.00	25,003,440.00
tblLandUse	LotAcreage	0.00	574.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

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tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
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tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00

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tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	3,527.00	0.00
tblTripsAndVMT	VendorTripNumber	3,527.00	0.00
tblTripsAndVMT	VendorTripNumber	3,527.00	2.00
tblTripsAndVMT	VendorTripNumber	3,527.00	0.00
tblTripsAndVMT	VendorTripNumber	3,527.00	0.00
tblTripsAndVMT	VendorTripNumber	3,527.00	0.00
tblTripsAndVMT	VendorTripNumber	3,527.00	0.00
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30

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tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripNumber	8.00	12.00
tblTripsAndVMT	WorkerTripNumber	8.00	12.00
tblTripsAndVMT	WorkerTripNumber	38.00	104.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	112.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	112.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	16.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	16.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	32.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	32.00
tblTripsAndVMT	WorkerTripNumber	9,038.00	16.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.02
tblVehicleTrips	WD_TR	0.00	0.02
tblWater	OutdoorWaterUseRate	0.00	3,258,510.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-15-2018	4-14-2018	2.0875	2.0875
2	4-15-2018	7-14-2018	1.4906	1.4906
3	7-15-2018	9-30-2018	2.6434	2.6434
		Highest	2.6434	2.6434

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	73.6543	73.6543	1.6800e-003	3.5000e-004	73.7999
Mobile	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448
Offroad	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	20.8694	20.8694	4.8000e-004	1.0000e-004	20.9107
Total	0.0760	0.7499	0.4750	1.4900e-003	0.0119	0.0257	0.0376	3.1900e-003	0.0237	0.0269	0.0000	228.4144	228.4144	0.0401	4.5000e-004	229.5507

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	73.6543	73.6543	1.6800e-003	3.5000e-004	73.7999
Mobile	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448
Offroad	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	20.8694	20.8694	4.8000e-004	1.0000e-004	20.9107
Total	0.0760	0.7499	0.4750	1.4900e-003	0.0119	0.0257	0.0376	3.1900e-003	0.0237	0.0269	0.0000	228.4144	228.4144	0.0401	4.5000e-004	229.5507

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Construction	Grading	1/15/2018	3/4/2018	6	42	
2	Grading	Grading	3/5/2018	4/15/2018	6	36	
3	Rack Installation	Building Construction	4/16/2018	9/16/2018	6	132	
4	Solar Panel Installation	Building Construction	6/25/2018	11/24/2018	6	132	
5	GenTie Line Construction	Building Construction	7/2/2018	8/18/2018	6	42	
6	Substation Construction	Building Construction	7/2/2018	10/20/2018	6	96	
7	System Wiring and Trenching	Building Construction	8/27/2018	12/8/2018	6	90	
8	Inverter Installation	Building Construction	10/15/2018	12/23/2018	6	60	
9	Battery Facility Installation	Building Construction	10/22/2018	12/23/2018	6	54	
10	Paving	Paving	12/10/2018	12/23/2018	6	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1722

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Construction	Excavators	0	8.00	158	0.38
Access Road Construction	Graders	1	8.00	187	0.41
Access Road Construction	Off-Highway Trucks	1	8.00	402	0.38
Access Road Construction	Rollers	1	6.00	80	0.38
Access Road Construction	Rubber Tired Dozers	0	8.00	247	0.40
Access Road Construction	Scrapers	0	8.00	367	0.48

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Access Road Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	2	6.00	158	0.38
Grading	Graders	2	6.00	187	0.41
Grading	Off-Highway Trucks	2	7.00	402	0.38
Grading	Rubber Tired Dozers	2	6.00	247	0.40
Grading	Scrapers	3	6.00	367	0.48
Grading	Skid Steer Loaders	2	6.00	65	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Rack Installation	Cranes	0	7.00	231	0.29
Rack Installation	Forklifts	0	8.00	89	0.20
Rack Installation	Generator Sets	1	8.00	84	0.74
Rack Installation	Off-Highway Trucks	1	6.00	402	0.38
Rack Installation	Other General Industrial Equipment	6	6.00	88	0.34
Rack Installation	Skid Steer Loaders	2	7.00	65	0.37
Rack Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Rack Installation	Welders	0	8.00	46	0.45
Solar Panal Installation	Cranes	0	7.00	231	0.29
Solar Panal Installation	Forklifts	0	8.00	89	0.20
Solar Panal Installation	Generator Sets	1	8.00	84	0.74
Solar Panal Installation	Off-Highway Trucks	1	6.00	402	0.38
Solar Panal Installation	Other General Industrial Equipment	1	8.00	88	0.34
Solar Panal Installation	Skid Steer Loaders	2	7.00	65	0.37
Solar Panal Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Solar Panal Installation	Trenchers	2	6.00	78	0.50
Solar Panal Installation	Welders	0	8.00	46	0.45
GenTie Line Construction	Aerial Lifts	3	4.00	63	0.31
GenTie Line Construction	Cranes	0	7.00	231	0.29

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GenTie Line Construction	Crawler Tractors	2	4.00	212	0.43
GenTie Line Construction	Forklifts	0	8.00	89	0.20
GenTie Line Construction	Generator Sets	0	8.00	84	0.74
GenTie Line Construction	Other General Industrial Equipment	1	8.00	88	0.34
GenTie Line Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
GenTie Line Construction	Welders	0	8.00	46	0.45
Substation Construction	Aerial Lifts	2	6.00	63	0.31
Substation Construction	Cranes	1	6.00	231	0.29
Substation Construction	Forklifts	0	8.00	89	0.20
Substation Construction	Generator Sets	0	8.00	84	0.74
Substation Construction	Other General Industrial Equipment	1	8.00	88	0.34
Substation Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Substation Construction	Welders	0	8.00	46	0.45
System Wiring and Trenching	Cranes	0	7.00	231	0.29
System Wiring and Trenching	Forklifts	0	8.00	89	0.20
System Wiring and Trenching	Generator Sets	2	8.00	84	0.74
System Wiring and Trenching	Off-Highway Trucks	1	6.00	402	0.38
System Wiring and Trenching	Other General Industrial Equipment	1	8.00	88	0.34
System Wiring and Trenching	Skid Steer Loaders	2	7.00	65	0.37
System Wiring and Trenching	Tractors/Loaders/Backhoes	0	7.00	97	0.37
System Wiring and Trenching	Trenchers	2	6.00	78	0.50
System Wiring and Trenching	Welders	0	8.00	46	0.45
Inverter Installation	Cranes	0	7.00	231	0.29
Inverter Installation	Forklifts	0	8.00	89	0.20
Inverter Installation	Generator Sets	1	8.00	84	0.74
Inverter Installation	Off-Highway Trucks	1	6.00	402	0.38
Inverter Installation	Other General Industrial Equipment	1	8.00	88	0.34

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Inverter Installation	Skid Steer Loaders	2	7.00	65	0.37
Inverter Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Inverter Installation	Welders	0	8.00	46	0.45
Battery Facility Installation	Cranes	0	7.00	231	0.29
Battery Facility Installation	Forklifts	0	8.00	89	0.20
Battery Facility Installation	Generator Sets	1	8.00	84	0.74
Battery Facility Installation	Off-Highway Trucks	1	6.00	402	0.38
Battery Facility Installation	Other General Industrial Equipment	1	8.00	88	0.34
Battery Facility Installation	Skid Steer Loaders	2	7.00	65	0.37
Battery Facility Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Battery Facility Installation	Trenchers	1	6.00	78	0.50
Battery Facility Installation	Welders	0	8.00	46	0.45
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Construction	3	12.00	0.00	12.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	15	104.00	6.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Rack Installation	10	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Solar Panel Installation	7	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
GenTie Line Construction	6	16.00	2.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Substation Construction	5	16.00	0.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
System Wiring and Trenching	8	32.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Inverter Installation	5	32.00	0.00	16.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Battery Facility Installation	6	16.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	12.00	0.00	8.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Access Road Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0270	0.0000	0.0270	2.9200e-003	0.0000	2.9200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0312	0.3638	0.1589	4.6000e-004		0.0140	0.0140		0.0128	0.0128	0.0000	41.8640	41.8640	0.0130	0.0000	42.1898
Total	0.0312	0.3638	0.1589	4.6000e-004	0.0270	0.0140	0.0410	2.9200e-003	0.0128	0.0158	0.0000	41.8640	41.8640	0.0130	0.0000	42.1898

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3.2 Access Road Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.6600e-003	2.1000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4490	0.4490	2.0000e-005	0.0000	0.4495
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-003	1.3600e-003	0.0125	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.2484	1.2484	1.1000e-004	0.0000	1.2513
Total	1.7400e-003	3.0200e-003	0.0127	1.0000e-005	1.4900e-003	2.0000e-005	1.5100e-003	4.0000e-004	2.0000e-005	4.1000e-004	0.0000	1.6974	1.6974	1.3000e-004	0.0000	1.7007

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0122	0.0000	0.0122	1.3100e-003	0.0000	1.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0312	0.3638	0.1589	4.6000e-004		0.0140	0.0140		0.0128	0.0128	0.0000	41.8639	41.8639	0.0130	0.0000	42.1897
Total	0.0312	0.3638	0.1589	4.6000e-004	0.0122	0.0140	0.0261	1.3100e-003	0.0128	0.0141	0.0000	41.8639	41.8639	0.0130	0.0000	42.1897

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3.2 Access Road Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.6600e-003	2.1000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4490	0.4490	2.0000e-005	0.0000	0.4495
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-003	1.3600e-003	0.0125	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.2484	1.2484	1.1000e-004	0.0000	1.2513
Total	1.7400e-003	3.0200e-003	0.0127	1.0000e-005	1.4900e-003	2.0000e-005	1.5100e-003	4.0000e-004	2.0000e-005	4.1000e-004	0.0000	1.6974	1.6974	1.3000e-004	0.0000	1.7007

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0757	0.0000	1.0757	0.1880	0.0000	0.1880	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1338	1.5559	0.8472	1.7200e-003		0.0657	0.0657		0.0604	0.0604	0.0000	156.9763	156.9763	0.0489	0.0000	158.1980
Total	0.1338	1.5559	0.8472	1.7200e-003	1.0757	0.0657	1.1413	0.1880	0.0604	0.2484	0.0000	156.9763	156.9763	0.0489	0.0000	158.1980

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3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	6.3000e-004	0.0150	4.5700e-003	4.0000e-005	8.9000e-004	1.3000e-004	1.0100e-003	2.6000e-004	1.2000e-004	3.8000e-004	0.0000	3.3286	3.3286	2.0000e-004	0.0000	3.3336
Worker	0.0127	0.0101	0.0925	1.0000e-004	0.0103	8.0000e-005	0.0104	2.7400e-003	7.0000e-005	2.8100e-003	0.0000	9.2741	9.2741	8.5000e-004	0.0000	9.2953
Total	0.0133	0.0256	0.0971	1.4000e-004	0.0113	2.1000e-004	0.0115	3.0100e-003	1.9000e-004	3.2000e-003	0.0000	12.7523	12.7523	1.0600e-003	0.0000	12.7787

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4841	0.0000	0.4841	0.0846	0.0000	0.0846	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1338	1.5559	0.8472	1.7200e-003		0.0657	0.0657		0.0604	0.0604	0.0000	156.9761	156.9761	0.0489	0.0000	158.1979
Total	0.1338	1.5559	0.8472	1.7200e-003	0.4841	0.0657	0.5497	0.0846	0.0604	0.1450	0.0000	156.9761	156.9761	0.0489	0.0000	158.1979

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3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	6.3000e-004	0.0150	4.5700e-003	4.0000e-005	8.9000e-004	1.3000e-004	1.0100e-003	2.6000e-004	1.2000e-004	3.8000e-004	0.0000	3.3286	3.3286	2.0000e-004	0.0000	3.3336
Worker	0.0127	0.0101	0.0925	1.0000e-004	0.0103	8.0000e-005	0.0104	2.7400e-003	7.0000e-005	2.8100e-003	0.0000	9.2741	9.2741	8.5000e-004	0.0000	9.2953
Total	0.0133	0.0256	0.0971	1.4000e-004	0.0113	2.1000e-004	0.0115	3.0100e-003	1.9000e-004	3.2000e-003	0.0000	12.7523	12.7523	1.0600e-003	0.0000	12.7787

3.4 Rack Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2161	188.2161	0.0497	0.0000	189.4579
Total	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2161	188.2161	0.0497	0.0000	189.4579

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3.4 Rack Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2159	188.2159	0.0497	0.0000	189.4577
Total	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2159	188.2159	0.0497	0.0000	189.4577

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3.4 Rack Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

3.5 Solar Panel Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7200	164.7200	0.0424	0.0000	165.7789
Total	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7200	164.7200	0.0424	0.0000	165.7789

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3.5 Solar Panel Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7198	164.7198	0.0424	0.0000	165.7787
Total	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7198	164.7198	0.0424	0.0000	165.7787

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3.5 Solar Panel Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

3.6 GenTie Line Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9873
Total	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9873

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3.6 GenTie Line Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	5.8400e-003	1.7800e-003	1.0000e-005	3.4000e-004	5.0000e-005	3.9000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.2944	1.2944	8.0000e-005	0.0000	1.2964
Worker	2.2700e-003	1.8100e-003	0.0166	2.0000e-005	1.8500e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6646	1.6646	1.5000e-004	0.0000	1.6684
Total	2.5100e-003	7.6500e-003	0.0184	3.0000e-005	2.1900e-003	6.0000e-005	2.2600e-003	5.9000e-004	6.0000e-005	6.5000e-004	0.0000	2.9590	2.9590	2.3000e-004	0.0000	2.9648

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9872
Total	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9872

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3.6 GenTie Line Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	5.8400e-003	1.7800e-003	1.0000e-005	3.4000e-004	5.0000e-005	3.9000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.2944	1.2944	8.0000e-005	0.0000	1.2964
Worker	2.2700e-003	1.8100e-003	0.0166	2.0000e-005	1.8500e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6646	1.6646	1.5000e-004	0.0000	1.6684
Total	2.5100e-003	7.6500e-003	0.0184	3.0000e-005	2.1900e-003	6.0000e-005	2.2600e-003	5.9000e-004	6.0000e-005	6.5000e-004	0.0000	2.9590	2.9590	2.3000e-004	0.0000	2.9648

3.7 Substation Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4313	51.4313	0.0160	0.0000	51.8315
Total	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4313	51.4313	0.0160	0.0000	51.8315

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3.7 Substation Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-003	4.1400e-003	0.0379	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.8047	3.8047	3.5000e-004	0.0000	3.8134
Total	5.2100e-003	4.6900e-003	0.0380	4.0000e-005	4.2700e-003	3.0000e-005	4.3100e-003	1.1300e-003	3.0000e-005	1.1600e-003	0.0000	3.9544	3.9544	3.6000e-004	0.0000	3.9633

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4312	51.4312	0.0160	0.0000	51.8315
Total	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4312	51.4312	0.0160	0.0000	51.8315

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3.7 Substation Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-003	4.1400e-003	0.0379	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.8047	3.8047	3.5000e-004	0.0000	3.8134
Total	5.2100e-003	4.6900e-003	0.0380	4.0000e-005	4.2700e-003	3.0000e-005	4.3100e-003	1.1300e-003	3.0000e-005	1.1600e-003	0.0000	3.9544	3.9544	3.6000e-004	0.0000	3.9633

3.8 System Wiring and Trenching - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7434	137.7434	0.0307	0.0000	138.5113
Total	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7434	137.7434	0.0307	0.0000	138.5113

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3.8 System Wiring and Trenching - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7400e-003	7.7600e-003	0.0711	8.0000e-005	7.9400e-003	6.0000e-005	8.0000e-003	2.1100e-003	5.0000e-005	2.1600e-003	0.0000	7.1339	7.1339	6.5000e-004	0.0000	7.1502
Total	9.7700e-003	9.1400e-003	0.0713	8.0000e-005	8.0300e-003	7.0000e-005	8.0900e-003	2.1300e-003	5.0000e-005	2.1900e-003	0.0000	7.5080	7.5080	6.7000e-004	0.0000	7.5247

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7433	137.7433	0.0307	0.0000	138.5111
Total	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7433	137.7433	0.0307	0.0000	138.5111

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3.8 System Wiring and Trenching - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7400e-003	7.7600e-003	0.0711	8.0000e-005	7.9400e-003	6.0000e-005	8.0000e-003	2.1100e-003	5.0000e-005	2.1600e-003	0.0000	7.1339	7.1339	6.5000e-004	0.0000	7.1502
Total	9.7700e-003	9.1400e-003	0.0713	8.0000e-005	8.0300e-003	7.0000e-005	8.0900e-003	2.1300e-003	5.0000e-005	2.1900e-003	0.0000	7.5080	7.5080	6.7000e-004	0.0000	7.5247

3.9 Inverter Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0092	61.0092	0.0149	0.0000	61.3827
Total	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0092	61.0092	0.0149	0.0000	61.3827

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3.9 Inverter Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.2100e-003	2.9000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5986	0.5986	3.0000e-005	0.0000	0.5993
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4900e-003	5.1700e-003	0.0474	5.0000e-005	5.3000e-003	4.0000e-005	5.3300e-003	1.4100e-003	4.0000e-005	1.4400e-003	0.0000	4.7559	4.7559	4.3000e-004	0.0000	4.7668
Total	6.5400e-003	7.3800e-003	0.0477	6.0000e-005	5.4400e-003	5.0000e-005	5.4800e-003	1.4500e-003	5.0000e-005	1.4900e-003	0.0000	5.3545	5.3545	4.6000e-004	0.0000	5.3661

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0091	61.0091	0.0149	0.0000	61.3826
Total	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0091	61.0091	0.0149	0.0000	61.3826

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3.9 Inverter Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.2100e-003	2.9000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5986	0.5986	3.0000e-005	0.0000	0.5993
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4900e-003	5.1700e-003	0.0474	5.0000e-005	5.3000e-003	4.0000e-005	5.3300e-003	1.4100e-003	4.0000e-005	1.4400e-003	0.0000	4.7559	4.7559	4.3000e-004	0.0000	4.7668
Total	6.5400e-003	7.3800e-003	0.0477	6.0000e-005	5.4400e-003	5.0000e-005	5.4800e-003	1.4500e-003	5.0000e-005	1.4900e-003	0.0000	5.3545	5.3545	4.6000e-004	0.0000	5.3661

3.10 Battery Facility Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1469	61.1469	0.0154	0.0000	61.5315
Total	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1469	61.1469	0.0154	0.0000	61.5315

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3.10 Battery Facility Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9200e-003	2.3300e-003	0.0213	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1402	2.1402	2.0000e-004	0.0000	2.1451
Total	2.9500e-003	3.7100e-003	0.0215	2.0000e-005	2.4700e-003	3.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.8000e-004	0.0000	2.5143	2.5143	2.2000e-004	0.0000	2.5196

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1468	61.1468	0.0154	0.0000	61.5314
Total	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1468	61.1468	0.0154	0.0000	61.5314

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3.10 Battery Facility Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9200e-003	2.3300e-003	0.0213	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1402	2.1402	2.0000e-004	0.0000	2.1451
Total	2.9500e-003	3.7100e-003	0.0215	2.0000e-005	2.4700e-003	3.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.8000e-004	0.0000	2.5143	2.5143	2.2000e-004	0.0000	2.5196

3.11 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389

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3.11 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.1100e-003	1.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2993	0.2993	1.0000e-005	0.0000	0.2996
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.9000e-004	3.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3567	0.3567	3.0000e-005	0.0000	0.3575
Total	5.1000e-004	1.5000e-003	3.7000e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.6560	0.6560	4.0000e-005	0.0000	0.6571

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389

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3.11 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.1100e-003	1.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2993	0.2993	1.0000e-005	0.0000	0.2996
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.9000e-004	3.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3567	0.3567	3.0000e-005	0.0000	0.3575
Total	5.1000e-004	1.5000e-003	3.7000e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.6560	0.6560	4.0000e-005	0.0000	0.6571

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448
Unmitigated	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	10.33	10.33	0.00	30,624	30,624
Total	10.33	10.33	0.00	30,624	30,624

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.40	9.50	11.90	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.496955	0.034284	0.161364	0.135255	0.020348	0.005532	0.018848	0.116417	0.003114	0.001145	0.005203	0.000754	0.000782

5.0 Energy Detail

Historical Energy Use: N

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	127768	73.6543	1.6800e-003	3.5000e-004	73.7999
Total		73.6543	1.6800e-003	3.5000e-004	73.7999

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	127768	73.6543	1.6800e-003	3.5000e-004	73.7999
Total		73.6543	1.6800e-003	3.5000e-004	73.7999

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Unmitigated	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	20.8694	4.8000e-004	1.0000e-004	20.9107
Unmitigated	20.8694	4.8000e-004	1.0000e-004	20.9107

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined	0 /	20.8694	4.8000e-004	1.0000e-004	20.9107
Industrial	3.25851				
Total		20.8694	4.8000e-004	1.0000e-004	20.9107

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 3.25851	20.8694	4.8000e-004	1.0000e-004	20.9107
Total		20.8694	4.8000e-004	1.0000e-004	20.9107

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	6.00	260	402	0.38	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Off-Highway Trucks	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844
Total	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

ATTACHMENT B-4

VEGA SES LLC SOLAR PROJECT

CONSTRUCTION & OPERATION ACTIVITIES

CalEEMod MODEL OUTPUTS - ANNUAL
MODEL "VEGA SOLAR PROJECT CALEEMOD V20 FF.xls"

Vega SES LLC Solar Project - FF - Imperial County, Annual

**Vega SES LLC Solar Project - FF
Imperial County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	574.00	User Defined Unit	574.00	25,003,440.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	12
Climate Zone	15			Operational Year	2019
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	1270.9	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - *

Land Use - Located on up to approximately 574 acres of land

Construction Phase - Anticipated Construction Schedule

Off-road Equipment - 1 grader 8 hrs; 1 off-highway (water) truck 8 hrs, 1 roller 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 1 trenchers 6 hrs

Off-road Equipment - 8

Off-road Equipment - 3 aerial lifts 4 hrs; 2 crawler tractors 4 hrs; 1 other general industrial equipment 8 hrs

Off-road Equipment - 2 excavators 6 hrs; 2 graders 6 hrs; 2 off-highway (water) truck 7 hrs, 2 rubber tired dozers 6 hrs; 3 scrapers 6 hrs; 2 skid steer loaders 6 hrs; 2 tractor/loader/backhoe 6 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs

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Off-road Equipment - 1 pavers set 7 hrs; 1 roller 7 hrs, 1 tractor/loader/backhoe 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 6 other general industrial equipment 6 hrs; 2 skid steer loaders 7 hrs

Off-road Equipment - 1 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Off-road Equipment - 2 aerial lifts 6 hrs; 1 crane 6 hrs; 1 other general industrial equipment 8 hrs; 1 tractor/loader/backhoe 6 hrs

Off-road Equipment - 2 generator set 8 hrs; 1 off-highway (water) truck 6 hrs, 1 other general industrial equipment 8 hrs; 2 skid steer loaders 7 hrs; 2 trenchers 6 hrs

Trips and VMT - Anticipated Worker, Vendor and Haul Truck Trips Included

On-road Fugitive Dust - All public roads traveled to the Project will be paved. Travel on unpaved private road calculated elsewhere

Grading - Approx 51 ac graded total during access rd construc; Approx 1,722 ac graded total during grading

Vehicle Trips - Anticipated Worker, Vendor and Haul Truck Trips Included

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - *

Consumer Products - None

Area Coating - None

Energy Use - Project estimated 300 kW-hrs of electrical energy daily during FF

Water And Wastewater - 10 acre-ft per yr

Construction Off-road Equipment Mitigation - Watering will occur two time per day on exposed areas

Operational Off-Road Equipment - *

Fleet Mix - *

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	7,750.00	132.00
tblConstructionPhase	NumDays	7,750.00	132.00

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tblConstructionPhase	NumDays	7,750.00	42.00
tblConstructionPhase	NumDays	7,750.00	96.00
tblConstructionPhase	NumDays	7,750.00	90.00
tblConstructionPhase	NumDays	7,750.00	60.00
tblConstructionPhase	NumDays	7,750.00	54.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	775.00	36.00
tblConstructionPhase	NumDays	550.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	0.00	4.3800e-003
tblGrading	AcresOfGrading	21.00	51.00
tblGrading	AcresOfGrading	108.00	1,722.00
tblLandUse	LandUseSquareFeet	0.00	25,003,440.00
tblLandUse	LotAcreage	0.00	574.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

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tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
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tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00

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tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripLength	11.90	8.90
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tblTripsAndVMT	WorkerTripLength	10.20	7.30

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tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
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tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.02
tblVehicleTrips	WD_TR	0.00	0.02
tblWater	OutdoorWaterUseRate	0.00	3,258,510.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-15-2018	4-14-2018	2.0875	2.0875
2	4-15-2018	7-14-2018	1.4906	1.4906
3	7-15-2018	9-30-2018	2.6434	2.6434
		Highest	2.6434	2.6434

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	63.1322	63.1322	1.4400e-003	3.0000e-004	63.2570
Mobile	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448
Offroad	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	20.8694	20.8694	4.8000e-004	1.0000e-004	20.9107
Total	0.0760	0.7499	0.4750	1.4900e-003	0.0119	0.0257	0.0376	3.1900e-003	0.0237	0.0269	0.0000	217.8924	217.8924	0.0399	4.0000e-004	219.0079

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	63.1322	63.1322	1.4400e-003	3.0000e-004	63.2570
Mobile	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448
Offroad	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	20.8694	20.8694	4.8000e-004	1.0000e-004	20.9107
Total	0.0760	0.7499	0.4750	1.4900e-003	0.0119	0.0257	0.0376	3.1900e-003	0.0237	0.0269	0.0000	217.8924	217.8924	0.0399	4.0000e-004	219.0079

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Access Road Construction	Grading	1/15/2018	3/4/2018	6	42	
2	Grading	Grading	3/5/2018	4/15/2018	6	36	
3	Rack Installation	Building Construction	4/16/2018	9/16/2018	6	132	
4	Solar Panel Installation	Building Construction	6/25/2018	11/24/2018	6	132	
5	GenTie Line Construction	Building Construction	7/2/2018	8/18/2018	6	42	
6	Substation Construction	Building Construction	7/2/2018	10/20/2018	6	96	
7	System Wiring and Trenching	Building Construction	8/27/2018	12/8/2018	6	90	
8	Inverter Installation	Building Construction	10/15/2018	12/23/2018	6	60	
9	Battery Facility Installation	Building Construction	10/22/2018	12/23/2018	6	54	
10	Paving	Paving	12/10/2018	12/23/2018	6	12	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1722

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Road Construction	Excavators	0	8.00	158	0.38
Access Road Construction	Graders	1	8.00	187	0.41
Access Road Construction	Off-Highway Trucks	1	8.00	402	0.38
Access Road Construction	Rollers	1	6.00	80	0.38
Access Road Construction	Rubber Tired Dozers	0	8.00	247	0.40
Access Road Construction	Scrapers	0	8.00	367	0.48

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Access Road Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	2	6.00	158	0.38
Grading	Graders	2	6.00	187	0.41
Grading	Off-Highway Trucks	2	7.00	402	0.38
Grading	Rubber Tired Dozers	2	6.00	247	0.40
Grading	Scrapers	3	6.00	367	0.48
Grading	Skid Steer Loaders	2	6.00	65	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Rack Installation	Cranes	0	7.00	231	0.29
Rack Installation	Forklifts	0	8.00	89	0.20
Rack Installation	Generator Sets	1	8.00	84	0.74
Rack Installation	Off-Highway Trucks	1	6.00	402	0.38
Rack Installation	Other General Industrial Equipment	6	6.00	88	0.34
Rack Installation	Skid Steer Loaders	2	7.00	65	0.37
Rack Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Rack Installation	Welders	0	8.00	46	0.45
Solar Panal Installation	Cranes	0	7.00	231	0.29
Solar Panal Installation	Forklifts	0	8.00	89	0.20
Solar Panal Installation	Generator Sets	1	8.00	84	0.74
Solar Panal Installation	Off-Highway Trucks	1	6.00	402	0.38
Solar Panal Installation	Other General Industrial Equipment	1	8.00	88	0.34
Solar Panal Installation	Skid Steer Loaders	2	7.00	65	0.37
Solar Panal Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Solar Panal Installation	Trenchers	2	6.00	78	0.50
Solar Panal Installation	Welders	0	8.00	46	0.45
GenTie Line Construction	Aerial Lifts	3	4.00	63	0.31
GenTie Line Construction	Cranes	0	7.00	231	0.29

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GenTie Line Construction	Crawler Tractors	2	4.00	212	0.43
GenTie Line Construction	Forklifts	0	8.00	89	0.20
GenTie Line Construction	Generator Sets	0	8.00	84	0.74
GenTie Line Construction	Other General Industrial Equipment	1	8.00	88	0.34
GenTie Line Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
GenTie Line Construction	Welders	0	8.00	46	0.45
Substation Construction	Aerial Lifts	2	6.00	63	0.31
Substation Construction	Cranes	1	6.00	231	0.29
Substation Construction	Forklifts	0	8.00	89	0.20
Substation Construction	Generator Sets	0	8.00	84	0.74
Substation Construction	Other General Industrial Equipment	1	8.00	88	0.34
Substation Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Substation Construction	Welders	0	8.00	46	0.45
System Wiring and Trenching	Cranes	0	7.00	231	0.29
System Wiring and Trenching	Forklifts	0	8.00	89	0.20
System Wiring and Trenching	Generator Sets	2	8.00	84	0.74
System Wiring and Trenching	Off-Highway Trucks	1	6.00	402	0.38
System Wiring and Trenching	Other General Industrial Equipment	1	8.00	88	0.34
System Wiring and Trenching	Skid Steer Loaders	2	7.00	65	0.37
System Wiring and Trenching	Tractors/Loaders/Backhoes	0	7.00	97	0.37
System Wiring and Trenching	Trenchers	2	6.00	78	0.50
System Wiring and Trenching	Welders	0	8.00	46	0.45
Inverter Installation	Cranes	0	7.00	231	0.29
Inverter Installation	Forklifts	0	8.00	89	0.20
Inverter Installation	Generator Sets	1	8.00	84	0.74
Inverter Installation	Off-Highway Trucks	1	6.00	402	0.38
Inverter Installation	Other General Industrial Equipment	1	8.00	88	0.34

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Inverter Installation	Skid Steer Loaders	2	7.00	65	0.37
Inverter Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Inverter Installation	Welders	0	8.00	46	0.45
Battery Facility Installation	Cranes	0	7.00	231	0.29
Battery Facility Installation	Forklifts	0	8.00	89	0.20
Battery Facility Installation	Generator Sets	1	8.00	84	0.74
Battery Facility Installation	Off-Highway Trucks	1	6.00	402	0.38
Battery Facility Installation	Other General Industrial Equipment	1	8.00	88	0.34
Battery Facility Installation	Skid Steer Loaders	2	7.00	65	0.37
Battery Facility Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Battery Facility Installation	Trenchers	1	6.00	78	0.50
Battery Facility Installation	Welders	0	8.00	46	0.45
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Road Construction	3	12.00	0.00	12.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	15	104.00	6.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Rack Installation	10	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Solar Panel Installation	7	112.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
GenTie Line Construction	6	16.00	2.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Substation Construction	5	16.00	0.00	4.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
System Wiring and Trenching	8	32.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Inverter Installation	5	32.00	0.00	16.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Battery Facility Installation	6	16.00	0.00	10.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	12.00	0.00	8.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Access Road Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0270	0.0000	0.0270	2.9200e-003	0.0000	2.9200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0312	0.3638	0.1589	4.6000e-004		0.0140	0.0140		0.0128	0.0128	0.0000	41.8640	41.8640	0.0130	0.0000	42.1898
Total	0.0312	0.3638	0.1589	4.6000e-004	0.0270	0.0140	0.0410	2.9200e-003	0.0128	0.0158	0.0000	41.8640	41.8640	0.0130	0.0000	42.1898

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3.2 Access Road Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.6600e-003	2.1000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4490	0.4490	2.0000e-005	0.0000	0.4495
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-003	1.3600e-003	0.0125	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.2484	1.2484	1.1000e-004	0.0000	1.2513
Total	1.7400e-003	3.0200e-003	0.0127	1.0000e-005	1.4900e-003	2.0000e-005	1.5100e-003	4.0000e-004	2.0000e-005	4.1000e-004	0.0000	1.6974	1.6974	1.3000e-004	0.0000	1.7007

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0122	0.0000	0.0122	1.3100e-003	0.0000	1.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0312	0.3638	0.1589	4.6000e-004		0.0140	0.0140		0.0128	0.0128	0.0000	41.8639	41.8639	0.0130	0.0000	42.1897
Total	0.0312	0.3638	0.1589	4.6000e-004	0.0122	0.0140	0.0261	1.3100e-003	0.0128	0.0141	0.0000	41.8639	41.8639	0.0130	0.0000	42.1897

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3.2 Access Road Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.6600e-003	2.1000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4490	0.4490	2.0000e-005	0.0000	0.4495
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-003	1.3600e-003	0.0125	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.2484	1.2484	1.1000e-004	0.0000	1.2513
Total	1.7400e-003	3.0200e-003	0.0127	1.0000e-005	1.4900e-003	2.0000e-005	1.5100e-003	4.0000e-004	2.0000e-005	4.1000e-004	0.0000	1.6974	1.6974	1.3000e-004	0.0000	1.7007

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0757	0.0000	1.0757	0.1880	0.0000	0.1880	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1338	1.5559	0.8472	1.7200e-003		0.0657	0.0657		0.0604	0.0604	0.0000	156.9763	156.9763	0.0489	0.0000	158.1980
Total	0.1338	1.5559	0.8472	1.7200e-003	1.0757	0.0657	1.1413	0.1880	0.0604	0.2484	0.0000	156.9763	156.9763	0.0489	0.0000	158.1980

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3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	6.3000e-004	0.0150	4.5700e-003	4.0000e-005	8.9000e-004	1.3000e-004	1.0100e-003	2.6000e-004	1.2000e-004	3.8000e-004	0.0000	3.3286	3.3286	2.0000e-004	0.0000	3.3336
Worker	0.0127	0.0101	0.0925	1.0000e-004	0.0103	8.0000e-005	0.0104	2.7400e-003	7.0000e-005	2.8100e-003	0.0000	9.2741	9.2741	8.5000e-004	0.0000	9.2953
Total	0.0133	0.0256	0.0971	1.4000e-004	0.0113	2.1000e-004	0.0115	3.0100e-003	1.9000e-004	3.2000e-003	0.0000	12.7523	12.7523	1.0600e-003	0.0000	12.7787

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4841	0.0000	0.4841	0.0846	0.0000	0.0846	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1338	1.5559	0.8472	1.7200e-003		0.0657	0.0657		0.0604	0.0604	0.0000	156.9761	156.9761	0.0489	0.0000	158.1979
Total	0.1338	1.5559	0.8472	1.7200e-003	0.4841	0.0657	0.5497	0.0846	0.0604	0.1450	0.0000	156.9761	156.9761	0.0489	0.0000	158.1979

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3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	6.3000e-004	0.0150	4.5700e-003	4.0000e-005	8.9000e-004	1.3000e-004	1.0100e-003	2.6000e-004	1.2000e-004	3.8000e-004	0.0000	3.3286	3.3286	2.0000e-004	0.0000	3.3336
Worker	0.0127	0.0101	0.0925	1.0000e-004	0.0103	8.0000e-005	0.0104	2.7400e-003	7.0000e-005	2.8100e-003	0.0000	9.2741	9.2741	8.5000e-004	0.0000	9.2953
Total	0.0133	0.0256	0.0971	1.4000e-004	0.0113	2.1000e-004	0.0115	3.0100e-003	1.9000e-004	3.2000e-003	0.0000	12.7523	12.7523	1.0600e-003	0.0000	12.7787

3.4 Rack Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2161	188.2161	0.0497	0.0000	189.4579
Total	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2161	188.2161	0.0497	0.0000	189.4579

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3.4 Rack Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2159	188.2159	0.0497	0.0000	189.4577
Total	0.1696	1.6002	1.2236	2.0900e-003		0.1006	0.1006		0.0939	0.0939	0.0000	188.2159	188.2159	0.0497	0.0000	189.4577

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3.4 Rack Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

3.5 Solar Panal Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7200	164.7200	0.0424	0.0000	165.7789
Total	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7200	164.7200	0.0424	0.0000	165.7789

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3.5 Solar Panel Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7198	164.7198	0.0424	0.0000	165.7787
Total	0.1464	1.3991	1.0136	1.8300e-003		0.0835	0.0835		0.0782	0.0782	0.0000	164.7198	164.7198	0.0424	0.0000	165.7787

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3.5 Solar Panel Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0500	0.0398	0.3652	4.1000e-004	0.0408	3.0000e-004	0.0411	0.0108	2.8000e-004	0.0111	0.0000	36.6206	36.6206	3.3500e-003	0.0000	36.7043
Total	0.0500	0.0412	0.3653	4.1000e-004	0.0409	3.1000e-004	0.0412	0.0108	2.8000e-004	0.0111	0.0000	36.9948	36.9948	3.3700e-003	0.0000	37.0789

3.6 GenTie Line Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9873
Total	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9873

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3.6 GenTie Line Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	5.8400e-003	1.7800e-003	1.0000e-005	3.4000e-004	5.0000e-005	3.9000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.2944	1.2944	8.0000e-005	0.0000	1.2964
Worker	2.2700e-003	1.8100e-003	0.0166	2.0000e-005	1.8500e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6646	1.6646	1.5000e-004	0.0000	1.6684
Total	2.5100e-003	7.6500e-003	0.0184	3.0000e-005	2.1900e-003	6.0000e-005	2.2600e-003	5.9000e-004	6.0000e-005	6.5000e-004	0.0000	2.9590	2.9590	2.3000e-004	0.0000	2.9648

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9872
Total	0.0210	0.2559	0.1332	2.7000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	24.7943	24.7943	7.7200e-003	0.0000	24.9872

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3.6 GenTie Line Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	5.8400e-003	1.7800e-003	1.0000e-005	3.4000e-004	5.0000e-005	3.9000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.2944	1.2944	8.0000e-005	0.0000	1.2964
Worker	2.2700e-003	1.8100e-003	0.0166	2.0000e-005	1.8500e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6646	1.6646	1.5000e-004	0.0000	1.6684
Total	2.5100e-003	7.6500e-003	0.0184	3.0000e-005	2.1900e-003	6.0000e-005	2.2600e-003	5.9000e-004	6.0000e-005	6.5000e-004	0.0000	2.9590	2.9590	2.3000e-004	0.0000	2.9648

3.7 Substation Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4313	51.4313	0.0160	0.0000	51.8315
Total	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4313	51.4313	0.0160	0.0000	51.8315

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3.7 Substation Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-003	4.1400e-003	0.0379	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.8047	3.8047	3.5000e-004	0.0000	3.8134
Total	5.2100e-003	4.6900e-003	0.0380	4.0000e-005	4.2700e-003	3.0000e-005	4.3100e-003	1.1300e-003	3.0000e-005	1.1600e-003	0.0000	3.9544	3.9544	3.6000e-004	0.0000	3.9633

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4312	51.4312	0.0160	0.0000	51.8315
Total	0.0473	0.5169	0.3516	5.6000e-004		0.0287	0.0287		0.0264	0.0264	0.0000	51.4312	51.4312	0.0160	0.0000	51.8315

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3.7 Substation Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.5000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1497	0.1497	1.0000e-005	0.0000	0.1498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-003	4.1400e-003	0.0379	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.8047	3.8047	3.5000e-004	0.0000	3.8134
Total	5.2100e-003	4.6900e-003	0.0380	4.0000e-005	4.2700e-003	3.0000e-005	4.3100e-003	1.1300e-003	3.0000e-005	1.1600e-003	0.0000	3.9544	3.9544	3.6000e-004	0.0000	3.9633

3.8 System Wiring and Trenching - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7434	137.7434	0.0307	0.0000	138.5113
Total	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7434	137.7434	0.0307	0.0000	138.5113

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3.8 System Wiring and Trenching - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7400e-003	7.7600e-003	0.0711	8.0000e-005	7.9400e-003	6.0000e-005	8.0000e-003	2.1100e-003	5.0000e-005	2.1600e-003	0.0000	7.1339	7.1339	6.5000e-004	0.0000	7.1502
Total	9.7700e-003	9.1400e-003	0.0713	8.0000e-005	8.0300e-003	7.0000e-005	8.0900e-003	2.1300e-003	5.0000e-005	2.1900e-003	0.0000	7.5080	7.5080	6.7000e-004	0.0000	7.5247

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7433	137.7433	0.0307	0.0000	138.5111
Total	0.1226	1.1390	0.8597	1.5400e-003		0.0687	0.0687		0.0651	0.0651	0.0000	137.7433	137.7433	0.0307	0.0000	138.5111

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3.8 System Wiring and Trenching - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7400e-003	7.7600e-003	0.0711	8.0000e-005	7.9400e-003	6.0000e-005	8.0000e-003	2.1100e-003	5.0000e-005	2.1600e-003	0.0000	7.1339	7.1339	6.5000e-004	0.0000	7.1502
Total	9.7700e-003	9.1400e-003	0.0713	8.0000e-005	8.0300e-003	7.0000e-005	8.0900e-003	2.1300e-003	5.0000e-005	2.1900e-003	0.0000	7.5080	7.5080	6.7000e-004	0.0000	7.5247

3.9 Inverter Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0092	61.0092	0.0149	0.0000	61.3827
Total	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0092	61.0092	0.0149	0.0000	61.3827

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3.9 Inverter Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.2100e-003	2.9000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5986	0.5986	3.0000e-005	0.0000	0.5993
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4900e-003	5.1700e-003	0.0474	5.0000e-005	5.3000e-003	4.0000e-005	5.3300e-003	1.4100e-003	4.0000e-005	1.4400e-003	0.0000	4.7559	4.7559	4.3000e-004	0.0000	4.7668
Total	6.5400e-003	7.3800e-003	0.0477	6.0000e-005	5.4400e-003	5.0000e-005	5.4800e-003	1.4500e-003	5.0000e-005	1.4900e-003	0.0000	5.3545	5.3545	4.6000e-004	0.0000	5.3661

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0091	61.0091	0.0149	0.0000	61.3826
Total	0.0462	0.4528	0.3414	6.8000e-004		0.0240	0.0240		0.0227	0.0227	0.0000	61.0091	61.0091	0.0149	0.0000	61.3826

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3.9 Inverter Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	2.2100e-003	2.9000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5986	0.5986	3.0000e-005	0.0000	0.5993
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4900e-003	5.1700e-003	0.0474	5.0000e-005	5.3000e-003	4.0000e-005	5.3300e-003	1.4100e-003	4.0000e-005	1.4400e-003	0.0000	4.7559	4.7559	4.3000e-004	0.0000	4.7668
Total	6.5400e-003	7.3800e-003	0.0477	6.0000e-005	5.4400e-003	5.0000e-005	5.4800e-003	1.4500e-003	5.0000e-005	1.4900e-003	0.0000	5.3545	5.3545	4.6000e-004	0.0000	5.3661

3.10 Battery Facility Installation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1469	61.1469	0.0154	0.0000	61.5315
Total	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1469	61.1469	0.0154	0.0000	61.5315

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3.10 Battery Facility Installation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9200e-003	2.3300e-003	0.0213	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1402	2.1402	2.0000e-004	0.0000	2.1451
Total	2.9500e-003	3.7100e-003	0.0215	2.0000e-005	2.4700e-003	3.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.8000e-004	0.0000	2.5143	2.5143	2.2000e-004	0.0000	2.5196

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1468	61.1468	0.0154	0.0000	61.5314
Total	0.0507	0.4900	0.3610	6.8000e-004		0.0279	0.0279		0.0262	0.0262	0.0000	61.1468	61.1468	0.0154	0.0000	61.5314

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3.10 Battery Facility Installation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.3800e-003	1.8000e-004	0.0000	9.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3741	0.3741	2.0000e-005	0.0000	0.3745
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9200e-003	2.3300e-003	0.0213	2.0000e-005	2.3800e-003	2.0000e-005	2.4000e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1402	2.1402	2.0000e-004	0.0000	2.1451
Total	2.9500e-003	3.7100e-003	0.0215	2.0000e-005	2.4700e-003	3.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.8000e-004	0.0000	2.5143	2.5143	2.2000e-004	0.0000	2.5196

3.11 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389

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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.1100e-003	1.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2993	0.2993	1.0000e-005	0.0000	0.2996
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.9000e-004	3.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3567	0.3567	3.0000e-005	0.0000	0.3575
Total	5.1000e-004	1.5000e-003	3.7000e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.6560	0.6560	4.0000e-005	0.0000	0.6571

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.4600e-003	0.0458	0.0378	5.0000e-005		2.8000e-003	2.8000e-003		2.5800e-003	2.5800e-003	0.0000	5.0000	5.0000	1.5600e-003	0.0000	5.0389

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3.11 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.1100e-003	1.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2993	0.2993	1.0000e-005	0.0000	0.2996
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.9000e-004	3.5600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3567	0.3567	3.0000e-005	0.0000	0.3575
Total	5.1000e-004	1.5000e-003	3.7000e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.6560	0.6560	4.0000e-005	0.0000	0.6571

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448
Unmitigated	6.2500e-003	0.0488	0.0799	2.0000e-004	0.0119	2.1000e-004	0.0121	3.1900e-003	2.0000e-004	3.3900e-003	0.0000	18.2110	18.2110	1.3500e-003	0.0000	18.2448

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	10.33	10.33	0.00	30,624	30,624
Total	10.33	10.33	0.00	30,624	30,624

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.40	9.50	11.90	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.496955	0.034284	0.161364	0.135255	0.020348	0.005532	0.018848	0.116417	0.003114	0.001145	0.005203	0.000754	0.000782

5.0 Energy Detail

Historical Energy Use: N

Vega SES LLC Solar Project - FF - Imperial County, Annual

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	109515	63.1322	1.4400e-003	3.0000e-004	63.2570
Total		63.1322	1.4400e-003	3.0000e-004	63.2570

Vega SES LLC Solar Project - FF - Imperial County, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	109515	63.1322	1.4400e-003	3.0000e-004	63.2570
Total		63.1322	1.4400e-003	3.0000e-004	63.2570

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Unmitigated	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

Vega SES LLC Solar Project - FF - Imperial County, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110
Total	5.0000e-004	5.0000e-005	5.3300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0103	0.0103	3.0000e-005	0.0000	0.0110

7.0 Water Detail

7.1 Mitigation Measures Water

Vega SES LLC Solar Project - FF - Imperial County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	20.8694	4.8000e-004	1.0000e-004	20.9107
Unmitigated	20.8694	4.8000e-004	1.0000e-004	20.9107

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined	0 /	20.8694	4.8000e-004	1.0000e-004	20.9107
Industrial	3.25851				
Total		20.8694	4.8000e-004	1.0000e-004	20.9107

Vega SES LLC Solar Project - FF - Imperial County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 3.25851	20.8694	4.8000e-004	1.0000e-004	20.9107
Total		20.8694	4.8000e-004	1.0000e-004	20.9107

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Vega SES LLC Solar Project - FF - Imperial County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Vega SES LLC Solar Project - FF - Imperial County, Annual

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	6.00	260	402	0.38	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Off-Highway Trucks	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844
Total	0.0692	0.7010	0.3897	1.2900e-003		0.0255	0.0255		0.0235	0.0235	0.0000	115.6695	115.6695	0.0366	0.0000	116.5844

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

ATTACHMENT B-5

VEGA SES LLC SOLAR PROJECT

CONSTRUCTION & OPERATION ACTIVITIES

CalEEMod MODEL OUTPUTS – MITIGATION REPORT
MODEL “VEGA SOLAR PROJECT CALEEMOD V20 HSAT.xls”

Vega SES LLC Solar Project - HSAT Imperial County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Access Road Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Battery Facility Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GenTie Line Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rack Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Panel Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring and Trenching	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Aerial Lifts	Diesel	No Change	0	5	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Crawler Tractors	Diesel	No Change	0	2	No Change	0.00
Excavators	Diesel	No Change	0	2	No Change	0.00
Forklifts	Diesel	No Change	0	0	No Change	0.00
Generator Sets	Diesel	No Change	0	6	No Change	0.00
Graders	Diesel	No Change	0	3	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	8	No Change	0.00
Other General Industrial Equipment	Diesel	No Change	0	12	No Change	0.00
Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	0	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	2	No Change	0.00
Scrapers	Diesel	No Change	0	3	No Change	0.00
Skid Steer Loaders	Diesel	No Change	0	12	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	4	No Change	0.00
Trenchers	Diesel	No Change	0	5	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Aerial Lifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.26081E-006	1.26081E-006	0.00000E+000	0.00000E+000	1.25108E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.05477E-006	1.05477E-006	0.00000E+000	0.00000E+000	1.04662E-006
Crawler Tractors	0.00000E+000	5.59910E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	6.64109E-007	6.64109E-007	0.00000E+000	0.00000E+000	1.31796E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.57150E-006	1.57150E-006	0.00000E+000	0.00000E+000	1.55936E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20487E-006	1.20487E-006	0.00000E+000	0.00000E+000	1.20270E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.02837E-006	1.02837E-006	0.00000E+000	0.00000E+000	1.36058E-006
Off-Highway Trucks	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16357E-006	1.16357E-006	0.00000E+000	0.00000E+000	1.19067E-006
Other General Industrial Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20172E-006	1.20172E-006	0.00000E+000	0.00000E+000	1.19244E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	4.40346E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.98900E-006	1.98900E-006	0.00000E+000	0.00000E+000	1.97364E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.42389E-006	1.42389E-006	0.00000E+000	0.00000E+000	9.41928E-007
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.24950E-006	1.24950E-006	0.00000E+000	0.00000E+000	1.06273E-006
Skid Steer Loaders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21479E-006	1.21479E-006	0.00000E+000	0.00000E+000	1.20541E-006
Tractors/Loaders/Balckhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	7.86164E-004	0.00000E+000	0.00000E+000	1.54914E-006	1.54914E-006	0.00000E+000	0.00000E+000	1.53717E-006
Trenchers	0.00000E+000	0.00000E+000	2.01947E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21668E-006	1.21668E-006	0.00000E+000	0.00000E+000	1.20728E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No Mitigation Measure

Mitigation Input

Mitigation Input

Mitigation Input

No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.50	Vehicle Speed (mph)	40.00		
No	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Access Road Construction	Fugitive Dust	0.03	0.00	0.01	0.00	0.55	0.55
Access Road Construction	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Battery Facility Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Battery Facility Installation	Roads	0.00	0.00	0.00	0.00	0.00	0.00
GenTie Line Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
GenTie Line Construction	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	1.08	0.19	0.48	0.08	0.55	0.55
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Inverter Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Rack Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Rack Installation	Roads	0.04	0.01	0.04	0.01	0.00	0.00
Solar Panal Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Solar Panal Installation	Roads	0.04	0.01	0.04	0.01	0.00	0.00
Substation Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Substation Construction	Roads	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring and Trenching	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring and Trenching	Roads	0.01	0.00	0.01	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	100.00
No	Use Low VOC Paint (Residential Exterior)	100.00
No	Use Low VOC Paint (Non-residential Interior)	150.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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ATTACHMENT C

AP-42 UNPAVED (PRIVATE) INDUSTRIAL ROAD CALCULATIONS

Access Rd Construc Site Dust

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	16.80	61%	3 x Water	28.71	8.20	0.82

Grading Construc Site Dust

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	79.80	61%	3 x Water	136.35	38.96	3.90

Rackng Inst Constrc Site Dust 1

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	85.40	61%	3 x Water	145.92	41.69	4.17

Rackng Inst Constrc Site Dust 2

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	15.00	61%	3 x Water	25.63	7.32	0.73

Panel Insta Constrc Site Dust 1

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	85.40	61%	3 x Water	145.92	41.69	4.17

Panel Insta Constrc Site Dust 2

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	15.00	61%	3 x Water	25.63	7.32	0.73

GenTie Line Constrc Site Dust

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	12.60	61%	3 x Water	21.53	6.15	0.62

Substation Constrc Site Dust

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	14.00	61%	3 x Water	23.92	6.83	0.68

Wire&Trench Constrc Site Dust 1

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	29.40	61%	3 x Water	50.23	14.35	1.44

Wire&Trench Constrc Site Dust 2

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	15.00	61%	3 x Water	25.63	7.32	0.73

Inverter Constrc Site Dust 1

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	22.40	61%	3 x Water	38.27	10.94	1.09

Inverter Constrc Site Dust 2

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	24.00	61%	3 x Water	41.01	11.72	1.17

Battery Bld Constrc Site Dust

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	18.20	61%	3 x Water	31.10	8.89	0.89

Paving Constrc Site Dust

Construction Fugitive Dust Emissions from Unpaved Roads

(Emission Factor Source: AP-42 (5th Ed. - 11/06) §13.2.2 - Unpaved Industrial Roads)

$$EF_{PM} \text{ (lbs/VMT)} = ((4.9) * ((s/12)^{0.7}) * ((W/3)^{0.45}))$$

$$EF_{PM_{10}} \text{ (lbs/VMT)} = ((1.5) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

$$EF_{PM_{2.5}} \text{ (lbs/VMT)} = ((0.15) * ((s/12)^{0.9}) * ((W/3)^{0.45}))$$

Where:

s = Silt content of road surface material (%)

M = Surface material moisture content (%)

W = Mean Vehicle Weight (tons)

Road Segment	Silt Content	Moisture Content	Vehicle Weight (tons)	PM Emission Factor (lb/VMT)	PM ₁₀ Emission Factor (lb/VMT)	PM _{2.5} Emission Factor (lb/VMT)	VMT per day	Emission Controls		Controlled Emissions (lbs/day)		
								ECF	Technology	PM	PM ₁₀	PM _{2.5}
On-Site Roads	8.5	0.5	4.00	4.3811	1.2518	0.1252	14.00	61%	3 x Water	23.92	6.83	0.68

ATTACHMENT D

TABLES SUMMARIZING AIR POLLUTANT EMISSIONS CALCULATED BY
CALEEMOD & AP-42 FOR EACH PROJECT ACTIVITY

Access Road Construction 2018

Vega Solar Project - Winter 2018 Access Road Construction (All-Weather) and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Access Rd Construc. Off-Road	A	1.49	17.32	7.57	0.02		0.66	0.66		0.61	0.61
Grading Fugitive Dust	A					1.29		1.29	0.14		0.14
Onsite Unpaved Fugitive Dust	B					8.20		8.20	0.82		0.82
Access Rd Construc. Offsite Haul	A	0.002	0.08	0.01	0.0002	0.01	0.0003	0.01	0.001	0.0003	0.00
Access Rd Construc. Offsite Vendor	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Access Rd Construc. Offsite Worker	A	0.08	0.07	0.55	0.0006	0.07	0.0005	0.07	0.02	0.0005	0.02
Total		1.57	17.47	8.13	0.02	9.56	0.67	10.23	0.98	0.61	1.59
Vega Solar Project - Summer 2018 Access Road Construction (All-Weather) and Associated Traffic											
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Access Rd Construc. Off-Road	A	1.49	17.32	7.57	0.02		0.66	0.66		0.61	0.61
Grading Fugitive Dust	A					0.58		0.58	0.06		0.06
Onsite Unpaved Fugitive Dust	B					8.20		8.20	0.82		0.82
Access Rd Construc. Offsite Haul	A	0.002	0.08	0.01	0.0002	0.01	0.0003	0.01	0.001	0.0003	0.00
Access Rd Construc. Offsite Vendor	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Access Rd Construc. Offsite Worker	A	0.08	0.07	0.55	0.0006	0.07	0.0005	0.07	0.02	0.0005	0.02
Total		1.57	17.47	8.13	0.02	8.85	0.67	9.52	0.90	0.61	1.51
Vega Solar Project - Summer 2018 Access Road Construction (All-Weather) and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Access Rd Construc. Off-Road	A	1.49	17.32	7.57	0.02		0.66	0.66		0.61	0.61
Grading Fugitive Dust	A					1.29		1.29	0.14		0.14
Onsite Unpaved Fugitive Dust	B					8.20		8.20	0.82		0.82
Access Rd Construc. Offsite Haul	A	0.002	0.08	0.01	0.0002	0.01	0.0003	0.01	0.001	0.0003	0.002
Access Rd Construc. Offsite Vendor	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Access Rd Construc. Offsite Worker	A	0.10	0.06	0.73	0.0007	0.07	0.0005	0.07	0.02	0.0005	0.02
Total		1.59	17.46	8.30	0.02	9.56	0.67	10.23	0.98	0.61	1.59
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Access Rd Construc. Off-Road	A	1.49	17.32	7.57	0.02		0.66	0.66		0.61	0.61
Grading Fugitive Dust	A					0.58		0.58	0.06		0.06
Onsite Unpaved Fugitive Dust	B					8.20		8.20	0.82		0.82
Access Rd Construc. Offsite Haul	A	0.002	0.08	0.01	0.0002	0.01	0.0003	0.01	0.001	0.0003	0.002
Access Rd Construc. Offsite Vendor	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Access Rd Construc. Offsite Worker	A	0.10	0.06	0.73	0.0007	0.07	0.0005	0.07	0.02	0.0005	0.02
Total		1.59	17.46	8.30	0.02	8.85	0.67	9.52	0.90	0.61	1.51

* Source A - CalEEMod Model Results
Source B - Other Calculated Results

Grading & Fencing 2018

Vega Solar Project - Winter 2018 Grading/Fencing and Associated Traffic											
Winter Unmitigated	Source	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Grading/Fencing Fugitive Dust	A					59.76		59.76	10.44		10.44
Onsite Unpaved Fugitive Dust	B					38.96		38.96	3.90		3.90
Grading/Fencing Off-Road	A	7.43	86.44	47.07	0.10		3.65	3.65		3.36	3.36
Grading/Fencing Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Fencing Offsite Vendor	A	0.04	0.83	0.27	0.00	0.05	0.01	0.06	0.01	0.01	0.02
Grading/Fencing Offsite Worker	A	0.68	0.57	4.76	0.005	0.58	0.004	0.58	0.15	0.004	0.16
Total		8.15	87.87	52.11	0.10	99.35	3.66	103.01	14.51	3.37	17.87
Winter Mitigated	Source	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Grading/Fencing Fugitive Dust	A					26.89		26.89	4.70		4.70
Onsite Unpaved Fugitive Dust	B					38.96		38.96	3.90		3.90
Grading/Fencing Off-Road	A	7.43	86.44	47.07	0.10		3.65	3.65		3.36	3.36
Grading/Fencing Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Fencing Offsite Vendor	A	0.04	0.83	0.27	0.00	0.05	0.01	0.06	0.01	0.01	0.02
Grading/Fencing Offsite Worker	A	0.68	0.57	4.76	0.005	0.58	0.004	0.58	0.15	0.004	0.16
Total		8.15	87.87	52.11	0.10	66.48	3.66	70.14	8.76	3.37	12.13
Vega Solar Project - Summer 2018 Grading and Associated Traffic											
Summer Unmitigated	Source	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Grading/Fencing Fugitive Dust	A					59.76		59.76	10.44		10.44
Onsite Unpaved Fugitive Dust	B					38.96		38.96	3.90		3.90
Grading/Fencing Off-Road	A	7.43	86.44	47.07	0.10		3.65	3.65		3.36	3.36
Grading/Fencing Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Fencing Offsite Vendor	A	0.03	0.81	0.24	0.00	0.05	0.01	0.06	0.01	0.01	0.02
Grading/Fencing Offsite Worker	A	0.85	0.54	6.29	0.006	0.58	0.004	0.58	0.15	0.004	0.16
Total		8.31	87.82	53.61	0.10	99.35	3.66	103.01	14.51	3.37	17.87
Summer Mitigated	Source	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Grading/Fencing Fugitive Dust	A					26.89		26.89	4.70		4.70
Onsite Unpaved Fugitive Dust	B					38.96		38.96	3.90		3.90
Grading/Fencing Off-Road	A	7.43	86.44	47.07	0.10		3.65	3.65		3.36	3.36
Grading/Fencing Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Fencing Offsite Vendor	A	0.03	0.81	0.24	0.00	0.05	0.01	0.06	0.01	0.01	0.02
Grading/Fencing Offsite Worker	A	0.85	0.54	6.29	0.006	0.58	0.004	0.58	0.15	0.004	0.16
Total		8.31	87.82	53.61	0.10	66.48	3.66	70.14	8.76	3.37	12.13

* Source A - CalEEMod Model Results
Source B - Other Calculated Results

Racking Installation 2018

Vega Solar Project - Winter 2018 Racking Installation and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Racking Installation Off-Road	A	2.57	24.25	18.54	0.03		1.52	1.52		1.42	1.42
Onsite Unpaved Fugitive Dust	B					49.01		49.01	4.90		4.90
Racking Installation Offsite Haul	A	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Racking Installation Offsite Vendor	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Racking Installation Offsite Worker	A	0.73	0.61	5.13	0.006	0.62	0.0046	0.63	0.17	0.0042	0.17
Total		3.30	24.88	23.67	0.04	49.64	1.53	51.17	5.07	1.43	6.49
Vega Solar Project - Summer 2018 Racking Installation and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Racking Installation Off-Road	A	2.57	24.25	18.54	0.03		1.52	1.52		1.42	1.42
Onsite Unpaved Fugitive Dust	B					49.01		49.01	4.90		4.90
Racking Installation Offsite Haul	A	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Racking Installation Offsite Vendor	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Racking Installation Offsite Worker	A	0.91	0.58	6.77	0.007	0.62	0.0046	0.63	0.17	0.0042	0.17
Total		3.48	24.85	25.32	0.04	49.64	1.53	51.17	5.07	1.43	6.49
Vega Solar Project - Summer 2018 Racking Installation and Associated Traffic											
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Racking Installation Off-Road	A	2.57	24.25	18.54	0.03		1.52	1.52		1.42	1.42
Onsite Unpaved Fugitive Dust	B					49.01		49.01	4.90		4.90
Racking Installation Offsite Haul	A	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Racking Installation Offsite Vendor	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Racking Installation Offsite Worker	A	0.91	0.58	6.77	0.007	0.62	0.0046	0.63	0.17	0.0042	0.17
Total		3.48	24.85	25.32	0.04	49.64	1.53	51.17	5.07	1.43	6.49
* Source A - CalEEMod Model Results Source B - Other Calculated Results											

Solar Panel Installation 2018

Vega Solar Project - Winter 2018 Solar Panel Installation and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Panel Installation Off-Road	A	2.22	21.20	15.36	0.03		1.26	1.26		1.18	1.18
Onsite Unpaved Fugitive Dust	B					49.01		49.01	4.90		4.90
Panel Installation Offsite Haul	A	0.00	0.02	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Panel Installation Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Panel Installation Offsite Worker	A	0.73	0.61	5.13	0.006	0.62	0.00	0.63	0.17	0.004	0.17
Total		2.95	21.83	20.49	0.03	49.64	1.27	50.91	5.07	1.19	6.26
Vega Solar Project - Summer 2018 Solar Panel Installation and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Panel Installation Off-Road	A	2.22	21.20	15.36	0.03		1.26	1.26		1.18	1.18
Onsite Unpaved Fugitive Dust	B					49.01		49.01	4.90		4.90
Panel Installation Offsite Haul	A	0.00	0.02	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Panel Installation Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Panel Installation Offsite Worker	A	0.91	0.58	6.77	0.007	0.62	0.00	0.63	0.17	0.004	0.17
Total		3.13	21.80	22.13	0.03	49.64	1.27	50.91	5.07	1.19	6.26
Vega Solar Project - Summer 2018 Solar Panel Installation and Associated Traffic											
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Panel Installation Off-Road	A	2.22	21.20	15.36	0.03		1.26	1.26		1.18	1.18
Onsite Unpaved Fugitive Dust	B					49.01		49.01	4.90		4.90
Panel Installation Offsite Haul	A	0.00	0.02	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Panel Installation Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Panel Installation Offsite Worker	A	0.91	0.58	6.77	0.007	0.62	0.00	0.63	0.17	0.004	0.17
Total		3.13	21.80	22.13	0.03	49.64	1.27	50.91	5.07	1.19	6.26
* Source A - CalEEMod Model Results Source B - Other Calculated Results											

GenTie Line Construction 2018

Vega Solar Project - Winter 2018 GenTie Power Line Construction and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
GenTie Line Construction Off-Road	A	1.00	12.19	6.34	0.01		0.56	0.56		0.51	0.51
Onsite Unpaved Fugitive Dust	B					6.15		6.15	0.62		0.62
GenTie Line Construction Offsite Haul	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GenTie Line Construction Offsite Vendor	A	0.01	0.28	0.09	0.001	0.02	0.00	0.02	0.00	0.00	0.01
GenTie Line Construction Offsite Worker	A	0.10	0.09	0.73	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.11	12.55	7.16	0.01	6.26	0.56	6.82	0.64	0.52	1.16
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
GenTie Line Construction Off-Road	A	1.00	12.19	6.34	0.01		0.56	0.56		0.51	0.51
Onsite Unpaved Fugitive Dust	B					6.15		6.15	0.62		0.62
GenTie Line Construction Offsite Haul	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GenTie Line Construction Offsite Vendor	A	0.01	0.28	0.09	0.001	0.02	0.00	0.02	0.00	0.00	0.01
GenTie Line Construction Offsite Worker	A	0.10	0.09	0.73	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.11	12.55	7.16	0.01	6.26	0.56	6.82	0.64	0.52	1.16
Vega Solar Project - Summer 2018 GenTie Power Line Construction and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
GenTie Line Construction Off-Road	A	1.00	12.19	6.34	0.01		0.56	0.56		0.51	0.51
Onsite Unpaved Fugitive Dust	B					6.15		6.15	0.62		0.62
GenTie Line Construction Offsite Haul	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GenTie Line Construction Offsite Vendor	A	0.01	0.27	0.08	0.001	0.02	0.00	0.02	0.00	0.00	0.01
GenTie Line Construction Offsite Worker	A	0.13	0.08	0.97	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.14	12.54	7.39	0.01	6.26	0.56	6.82	0.64	0.52	1.16
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
GenTie Line Construction Off-Road	A	1.00	12.19	6.34	0.01		0.56	0.56		0.51	0.51
Onsite Unpaved Fugitive Dust	B					6.15		6.15	0.62		0.62
GenTie Line Construction Offsite Haul	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GenTie Line Construction Offsite Vendor	A	0.01	0.27	0.08	0.001	0.02	0.00	0.02	0.00	0.00	0.01
GenTie Line Construction Offsite Worker	A	0.13	0.08	0.97	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.14	12.54	7.39	0.01	6.26	0.56	6.82	0.64	0.52	1.16
* Source A - CalEEMod Model Results Source B - Other Calculated Results											

Substation Construc. 2018

Vega Solar Project - Winter 2018 Substation Construction and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Substation/Switch Sta Construc Off-Road	A	0.98	10.77	7.33	0.01		0.60	0.60		0.55	0.55
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Substation/Switch Sta Construc Offsite Haul	A	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Worker	A	0.10	0.09	0.73	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.09	10.87	8.06	0.01	6.92	0.60	7.52	0.71	0.55	1.26
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Substation/Switch Sta Construc Off-Road	A	0.98	10.77	7.33	0.01		0.60	0.60		0.55	0.55
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Substation/Switch Sta Construc Offsite Haul	A	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Worker	A	0.10	0.09	0.73	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.09	10.87	8.06	0.01	6.92	0.60	7.52	0.71	0.55	1.26
Vega Solar Project - Summer 2018 Substation and Switch Station Construction and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Substation/Switch Sta Construc Off-Road	A	0.98	10.77	7.33	0.01		0.60	0.60		0.55	0.55
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Substation/Switch Sta Construc Offsite Haul	A	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Worker	A	0.13	0.08	0.97	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.12	10.86	8.29	0.01	6.92	0.60	7.52	0.71	0.55	1.26
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Substation/Switch Sta Construc Off-Road	A	0.98	10.77	7.33	0.01		0.60	0.60		0.55	0.55
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Substation/Switch Sta Construc Offsite Haul	A	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Substation/Switch Sta Construc Offsite Worker	A	0.13	0.08	0.97	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.12	10.86	8.29	0.01	6.92	0.60	7.52	0.71	0.55	1.26

* Source A - CalEEMod Model Results
Source B - Other Calculated Results

Wiring&Trench Construction 2018

Vega Solar Project - Winter 2018 System Wiring and Trenching and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
System Wiring & Trenching Off-Road	A	2.72	25.31	19.10	0.034		1.53	1.53		1.45	1.45
Onsite Unpaved Fugitive Dust	B					21.68		21.68	2.17		2.17
System Wiring & Trenching Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Worker	A	0.21	0.18	1.47	0.0016	0.18	0.0013	0.18	0.05	0.0012	0.05
Total		2.93	25.52	20.58	0.04	21.86	1.53	23.38	2.22	1.45	3.66
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
System Wiring & Trenching Off-Road	A	2.72	25.31	19.10	0.034		1.53	1.53		1.45	1.45
Onsite Unpaved Fugitive Dust	B					21.68		21.68	2.17		2.17
System Wiring & Trenching Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Worker	A	0.21	0.18	1.47	0.0016	0.18	0.0013	0.18	0.05	0.0012	0.05
Total		2.93	25.52	20.58	0.04	21.86	1.53	23.38	2.22	1.45	3.66
Vega Solar Project - Summer 2018 System Wiring and Trenching and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
System Wiring & Trenching Off-Road	A	2.72	25.31	19.10	0.034		1.53	1.53		1.45	1.45
Onsite Unpaved Fugitive Dust	B					21.68		21.68	2.17		2.17
System Wiring & Trenching Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Worker	A	0.26	0.17	1.94	0.0020	0.18	0.0013	0.18	0.05	0.0012	0.05
Total		2.99	25.51	21.04	0.04	21.86	1.53	23.38	2.22	1.45	3.66
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
System Wiring & Trenching Off-Road	A	2.72	25.31	19.10	0.034		1.53	1.53		1.45	1.45
Onsite Unpaved Fugitive Dust	B					21.68		21.68	2.17		2.17
System Wiring & Trenching Offsite Haul	A	0.00	0.03	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
System Wiring & Trenching Offsite Worker	A	0.26	0.17	1.94	0.0020	0.18	0.0013	0.18	0.05	0.0012	0.05
Total		2.99	25.51	21.04	0.04	21.86	1.53	23.38	2.22	1.45	3.66
* Source A - CalEEMod Model Results Source B - Other Calculated Results											

Inverter Installation 2018

Vega Solar Project - Winter 2018 Inverter Installation and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Inverter Installation Off-Road	A	1.54	15.09	11.38	0.02		0.80	0.80		0.76	0.76
Onsite Unpaved Fugitive Dust	B					22.65		22.65	2.27		2.27
Inverter Installation Offsite Haul	A	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Worker	A	0.21	0.18	1.47	0.00	0.18	0.00	0.18	0.05	0.00	0.05
Total		1.75	15.34	12.86	0.02	22.83	0.80	23.64	2.31	0.76	3.07
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Inverter Installation Off-Road	A	1.54	15.09	11.38	0.02		0.80	0.80		0.76	0.76
Onsite Unpaved Fugitive Dust	B					22.65		22.65	2.27		2.27
Inverter Installation Offsite Haul	A	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Worker	A	0.21	0.18	1.47	0.00	0.18	0.00	0.18	0.05	0.00	0.05
Total		1.75	15.34	12.86	0.02	22.83	0.80	23.64	2.31	0.76	3.07
Vega Solar Project - Summer 2018 Inverter Installation and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Inverter Installation Off-Road	A	1.54	15.09	11.38	0.02		0.80	0.80		0.76	0.76
Onsite Unpaved Fugitive Dust	B					22.65		22.65	2.27		2.27
Inverter Installation Offsite Haul	A	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Worker	A	0.26	0.17	1.94	0.00	0.18	0.00	0.18	0.05	0.00	0.05
Total		1.80	15.33	13.32	0.02	22.83	0.80	23.64	2.31	0.76	3.07
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Inverter Installation Off-Road	A	1.54	15.09	11.38	0.02		0.80	0.80		0.76	0.76
Onsite Unpaved Fugitive Dust	B					22.65		22.65	2.27		2.27
Inverter Installation Offsite Haul	A	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Inverter Installation Offsite Worker	A	0.26	0.17	1.94	0.00	0.18	0.00	0.18	0.05	0.00	0.05
Total		1.80	15.33	13.32	0.02	22.83	0.80	23.64	2.31	0.76	3.07
* Source A - CalEEMod Model Results Source B - Other Calculated Results											

Battery Bld Construction 2018

Vega Solar Project - Winter 2018 Battery Building Construction and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Battery Bld Construction Off-Road	A	1.88	18.15	13.37	0.03		1.03	1.03		0.97	0.97
Onsite Unpaved Fugitive Dust	B					8.89		8.89	0.89		0.89
Battery Bld Construction Offsite Haul	A	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Worker	A	0.10	0.09	0.73	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.98	18.28	14.11	0.03	8.98	1.03	10.01	0.91	0.97	1.88
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Battery Bld Construction Off-Road	A	1.88	18.15	13.37	0.03		1.03	1.03		0.97	0.97
Onsite Unpaved Fugitive Dust	B					8.89		8.89	0.89		0.89
Battery Bld Construction Offsite Haul	A	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Worker	A	0.10	0.09	0.73	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		1.98	18.28	14.11	0.03	8.98	1.03	10.01	0.91	0.97	1.88
Vega Solar Project - Summer 2018 Battery Building Construction and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Battery Bld Construction Off-Road	A	1.88	18.15	13.37	0.03		1.03	1.03		0.97	0.97
Onsite Unpaved Fugitive Dust	B					8.89		8.89	0.89		0.89
Battery Bld Construction Offsite Haul	A	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Worker	A	0.13	0.08	0.97	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		2.01	18.28	14.34	0.03	8.98	1.03	10.01	0.91	0.97	1.88
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Battery Bld Construction Off-Road	A	1.88	18.15	13.37	0.03		1.03	1.03		0.97	0.97
Onsite Unpaved Fugitive Dust	B					8.89		8.89	0.89		0.89
Battery Bld Construction Offsite Haul	A	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Battery Bld Construction Offsite Worker	A	0.13	0.08	0.97	0.00	0.09	0.00	0.09	0.02	0.00	0.02
Total		2.01	18.28	14.34	0.03	8.98	1.03	10.01	0.91	0.97	1.88

* Source A - CalEEMod Model Results
Source B - Other Calculated Results

Paving Driveway 2018

Vega Solar Project - Winter 2018 Driveway Paving and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Driveway Paving Off-Road	A	0.74	7.64	6.30	0.01		0.47	0.47		0.43	0.43
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Driveway Paving Offsite Haul	A	0.00	0.18	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Driveway Paving Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Driveway Paving Offsite Worker	A	0.08	0.07	0.55	0.00	0.07	0.00	0.07	0.02	0.00	0.02
Total		0.83	7.89	6.88	0.01	6.91	0.47	7.38	0.70	0.43	1.14
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Driveway Paving Off-Road	A	0.74	7.64	6.30	0.01		0.47	0.47		0.43	0.43
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Driveway Paving Offsite Haul	A	0.00	0.18	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Driveway Paving Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Driveway Paving Offsite Worker	A	0.08	0.07	0.55	0.00	0.07	0.00	0.07	0.02	0.00	0.02
Total		0.83	7.89	6.88	0.01	6.91	0.47	7.38	0.70	0.43	1.14
Vega Solar Project - Summer 2018 Driveway Paving and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Driveway Paving Off-Road	A	0.74	7.64	6.30	0.01		0.47	0.47		0.43	0.43
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Driveway Paving Offsite Haul	A	0.00	0.18	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Driveway Paving Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Driveway Paving Offsite Worker	A	0.10	0.06	0.73	0.00	0.07	0.00	0.07	0.02	0.00	0.02
Total		0.85	7.88	7.05	0.01	6.91	0.47	7.38	0.70	0.43	1.14
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Driveway Paving Off-Road	A	0.74	7.64	6.30	0.01		0.47	0.47		0.43	0.43
Onsite Unpaved Fugitive Dust	B					6.83		6.83	0.68		0.68
Driveway Paving Offsite Haul	A	0.00	0.18	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Driveway Paving Offsite Vendor	A	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Driveway Paving Offsite Worker	A	0.10	0.06	0.73	0.00	0.07	0.00	0.07	0.02	0.00	0.02
Total		0.85	7.88	7.05	0.01	6.91	0.47	7.38	0.70	0.43	1.14

* Source A - CalEEMod Model Results
Source B - Other Calculated Results

Construction Annual CO2e

Vega Solar Project - Annual Construction and Associated Traffic						
Annual Unmitigated	Emission Rate (Metric Tons/year)					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Access Road Construction 2018 - Offroad	0.0000	41.86	41.86	0.0130	0.0000	42.19
Access Road Construction 2018 - Mobile	0.0000	1.70	1.70	0.00013	0.0000	1.70
Grading/Fencing 2018 - Offroad	0.0000	156.98	156.98	0.05	0.0000	158.20
Grading/Fencing 2018 - Mobile	0.0000	12.75	12.75	0.000	0.0000	12.78
Racking Installation 2018 - Offroad	0.0000	188.22	188.22	0.05	0.0000	189.46
Racking Installation 2018 - Mobile	0.0000	36.99	36.99	0.003	0.0000	37.08
Solar Panel Installation 2015 - Offroad	0.0000	164.72	164.72	0.04	0.0000	165.78
Solar Panel Installation 2015 - Mobile	0.0000	36.99	36.99	0.00	0.0000	37.08
GenTie Power Line Construction 2018 - Offroad	0.0000	24.79	24.79	0.01	0.0000	24.99
GenTie Power Line Construction 2018 - Mobile	0.0000	2.96	2.96	0.0002	0.0000	2.96
Substation Construc 2018 - Offroad	0.0000	51.43	51.43	0.02	0.0000	51.83
Substation Construc 2018 - Mobile	0.0000	3.95	3.95	0.0004	0.0000	3.96
System Wiring and Trenching 2018 - Offroad	0.0000	137.74	137.74	0.03	0.0000	138.51
System Wiring and Trenching 2018 - Mobile	0.0000	7.51	7.51	0.0007	0.0000	7.52
Inverter Installation 2018 - Offroad	0.0000	61.01	61.01	0.01	0.0000	61.38
Inverter Installation 2018 - Mobile	0.0000	5.35	5.35	0.0005	0.0000	5.37
Battery Facility Installation 2018 - Offroad	0.0000	61.15	61.15	0.02	0.0000	61.53
Battery Facility Installation 2018 - Mobile	0.0000	2.51	2.51	0.0002	0.0000	2.52
Paving Driveway 2018 - Offroad	0.0000	5.00	5.00	0.00	0.0000	5.04
Paving Driveway 2018 - Mobile	0.0000	0.66	0.66	0.0000	0.0000	0.66
Total	0.00	1004.29	1004.29	0.25	0.00	1010.54
Annual Mitigated	Emission Rate (Metric Tons/year)					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Access Road Construction 2018 - Offroad	0.00	41.86	41.86	0.01	0.00	42.19
Access Road Construction 2018 - Mobile	0.00	1.70	1.70	0.00	0.00	1.70
Grading/Fencing 2018 - Offroad	0.00	156.98	156.98	0.05	0.00	158.20
Grading/Fencing 2018 - Mobile	0.00	12.75	12.75	0.00	0.00	12.78
Racking Installation 2018 - Offroad	0.00	188.22	188.22	0.05	0.00	189.46
Racking Installation 2018 - Mobile	0.00	36.99	36.99	0.00	0.00	37.08
Solar Panel Installation 2015 - Offroad	0.00	164.72	164.72	0.04	0.00	165.78
Solar Panel Installation 2015 - Mobile	0.00	36.99	36.99	0.00	0.00	37.08
GenTie Power Line Construction 2018 - Offroad	0.00	24.79	24.79	0.01	0.00	24.99
GenTie Power Line Construction 2018 - Mobile	0.00	2.96	2.96	0.00	0.00	2.96
Substation Construc 2018 - Offroad	0.00	51.43	51.43	0.02	0.00	51.83
Substation Construc 2018 - Mobile	0.00	3.95	3.95	0.00	0.00	3.96
System Wiring and Trenching 2018 - Offroad	0.00	137.74	137.74	0.03	0.00	138.51
System Wiring and Trenching 2018 - Mobile	0.00	7.51	7.51	0.00	0.00	7.52
Inverter Installation 2018 - Offroad	0.00	61.01	61.01	0.01	0.00	61.38
Inverter Installation 2018 - Mobile	0.00	5.35	5.35	0.00	0.00	5.37
Battery Facility Installation 2018 - Offroad	0.00	61.15	61.15	0.02	0.00	61.53
Battery Facility Installation 2018 - Mobile	0.00	2.51	2.51	0.00	0.00	2.52
Paving Driveway 2018 - Offroad	0.00	5.00	5.00	0.00	0.00	5.04
Paving Driveway 2018 - Mobile	0.00	0.66	0.66	0.00	0.00	0.66
Total	0.00	1004.29	1004.29	0.25	0.00	1010.54

Operations 2018 HSAT

Vega Solar Project - Winter 2018 Operations/Maintenance HSAT and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.01	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.01	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
Vega Solar Project - Summer 2018 Operations/Maintenance HSAT and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.00	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.00	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
* Source A - CalEEMod Model Results Source B - Other Calculated Results											

Operations Annual CO2e HSAT

Vega Solar Project - 2018 Annual Operations HSAT and Associated Traffic						
Annual Unmitigated	Emission Rate (Metric Tons/year)					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Operations Offroad	0	115.67	115.67	0.04	0	116.58
Operations Energy	0	73.65	73.65	1.68E-03	3.50E-04	73.80
Operations Area	0	0.00883	0.00883	0.00002	0	0.00943
Operations Water	0	20.87	20.87	4.80E-04	1.00E-04	20.91
Operations Mobile	0	18.21	18.21	1.35E-03	0	18.24
Total	0.00	228.41	228.41	0.04	0.00	229.55
Annual Mitigated	Emission Rate (Metric Tons/year)					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Operations Offroad	0	115.67	115.67	0.04	0	116.58
Operations Energy	0	73.65	73.65	1.68E-03	3.50E-04	73.80
Operations Area	0	0.00883	0.00883	0.00002	0	0.00943
Operations Water	0	20.87	20.87	4.80E-04	1.00E-04	20.91
Operations Mobile	0	18.21	18.21	1.35E-03	0	18.24
Total	0.00	228.41	228.41	0.04	0.00	229.55

Operations 2018 FF

Vega Solar Project - Winter 2018 Operations/Maintenance Fixed Frame and Associated Traffic											
Winter Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.01	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
Winter Mitigated											
Winter Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.00	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
Vega Solar Project - Summer 2018 Operations/Maintenance Fixed Frame and Associated Traffic											
Summer Unmitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.00	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
Summer Mitigated											
Summer Mitigated	Source*	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	PM10	FUGPM2.5	EXHPM2.5	PM2.5
Operations Area	A	0.00	0.00	0.00	0.0000		0.00	0.00		0.00	0.00
Operations Mobile	A	0.01	0.05	0.08	0.0002	0.01	0.00	0.01	0.003	0.0002	0.00
Operations Offroad	A	0.07	0.70	0.39	0.00		0.03	0.03		0.02	0.02
Total		0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
* Source A - CalEEMod Model Results Source B - Other Calculated Results											

Operations Annual CO2e FF

Vega Solar Project - 2018 Annual Operations Fixed Frame and Associated Traffic						
Annual Unmitigated	Emission Rate (Metric Tons/year)					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Operations Offroad	0	115.67	115.67	0.04	0	116.58
Operations Energy	0	63.13	63.13	1.44E-03	3.00E-04	63.26
Operations Area	0	0.00883	0.00883	0.00002	0	0.00943
Operations Water	0	20.87	20.87	4.80E-04	1.00E-04	20.91
Operations Mobile	0	18.21	18.21	1.35E-03	0	18.24
Total	0.00	217.89	217.89	0.04	0.00	219.01
Annual Mitigated	Emission Rate (Metric Tons/year)					
	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Operations Offroad	0	115.67	115.67	0.04	0	116.58
Operations Energy	0	52.61	52.61	1.20E-03	2.50E-04	52.71
Operations Area	0	0.00883	0.00883	0.00002	0	0.00943
Operations Water	0	20.87	20.87	4.80E-04	1.00E-04	20.91
Operations Mobile	0	18.29	18.29	1.36E-03	0	18.32
Total	0.00	207.44	207.44	0.04	0.00	208.54

ATTACHMENT E

TABLES PROVIDING UNMITIGATED AND MITIGATED DAILY AIR POLLUTION
EMISSIONS SUMMED BY TIME PERIOD COMPARED TO APPLICABLE
SIGNIFICANCE THRESHOLDS

Vega Week 1-7

Access Road Construction (All-Weather)										
Week 1 - 7 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	1.57	17.47	8.13	0.02	9.56	0.67	10.23	0.98	0.61	1.59
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 1 - 7 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	1.59	17.46	8.30	0.02	9.56	0.67	10.23	0.98	0.61	1.59
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 1 - 7 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	1.57	17.47	8.13	0.02	8.85	0.67	9.52	0.90	0.61	1.51
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 1 - 7 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	1.59	17.46	8.30	0.02	8.85	0.67	9.52	0.90	0.61	1.51
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Week 8-13

Grading/Fencing										
Week 8 - 13 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.15	87.87	52.11	0.10	99.35	3.66	103.01	14.51	3.37	17.87
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 8 - 13 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.31	87.82	53.61	0.10	99.35	3.66	103.01	14.51	3.37	17.87
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 8 - 13 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.15	87.87	52.11	0.10	66.48	3.66	70.14	8.76	3.37	12.13
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 8 - 13 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.31	87.82	53.61	0.10	66.48	3.66	70.14	8.76	3.37	12.13
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Week 14-23

Racking Installation										
Week 14 - 23 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	3.30	24.88	23.67	0.04	49.64	1.53	51.17	5.07	1.43	6.49
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 14 - 23 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	3.48	24.85	25.32	0.04	49.64	1.53	51.17	5.07	1.43	6.49
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 14 - 23 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	3.30	24.88	23.67	0.04	49.64	1.53	51.17	5.07	1.43	6.49
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 14 - 23 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	3.48	24.85	25.32	0.04	49.64	1.53	51.17	5.07	1.43	6.49
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 24

Racking Installation & Solar Panel Installation										
Weeks 24 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.25	46.71	44.17	0.07	99.28	2.80	102.07	10.13	2.62	12.75
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 24 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.61	46.65	47.45	0.07	99.28	2.80	102.07	10.13	2.62	12.75
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 24 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.25	46.71	44.17	0.07	99.28	2.80	102.07	10.13	2.62	12.75
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 24 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.61	46.65	47.45	0.07	99.28	2.80	102.07	10.13	2.62	12.75
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 25-31

Racking Installation, Solar Panel Installation, GenTie Power Line Construction, & Substation Construction										
Weeks 25 - 31 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.45	70.13	59.39	0.10	112.46	3.96	116.41	11.48	3.68	15.17
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 25 - 31 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.87	70.05	63.14	0.10	112.46	3.96	116.41	11.48	3.68	15.17
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 25 - 31 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.45	70.13	59.39	0.10	112.46	3.96	116.41	11.48	3.68	15.17
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 25 - 31 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.87	70.05	63.14	0.10	112.46	3.96	116.41	11.48	3.68	15.17
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 32

Racking Installation, Solar Panel Installation, & Substation Construction										
Weeks 32 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	7.34	57.58	52.23	0.08	106.20	3.40	109.60	10.84	3.17	14.01
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 32 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	7.73	57.51	55.75	0.09	106.20	3.40	109.60	10.84	3.17	14.01
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 32 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	7.34	57.58	52.23	0.08	106.20	3.40	109.60	10.84	3.17	14.01
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 32 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	7.73	57.51	55.75	0.09	106.20	3.40	109.60	10.84	3.17	14.01
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 33-35

Racking Installation, Solar Panel Installation, Substation Construction, & System Wiring and Trenching										
Week 33 - 35 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	10.27	83.10	72.80	0.12	128.06	4.92	132.98	13.06	4.61	17.67
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 33 - 35 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	10.71	83.02	76.79	0.12	128.06	4.92	132.98	13.06	4.61	17.67
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 33 - 35 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	10.27	83.10	72.80	0.12	128.06	4.92	132.98	13.06	4.61	17.67
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Week 33 - 35 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	10.71	83.02	76.79	0.12	128.06	4.92	132.98	13.06	4.61	17.67
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 36-39

Solar Panel Installation, Substation Construction, & System Wiring and Trenching										
Weeks 36 - 39 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.97	58.22	49.13	0.08	78.42	3.40	81.81	7.99	3.19	11.18
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 36 - 39 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	7.23	58.17	51.47	0.08	78.42	3.40	81.81	7.99	3.19	11.18
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 36 - 39 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.97	58.22	49.13	0.08	78.42	3.40	81.81	7.99	3.19	11.18
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 36 - 39 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	7.23	58.17	51.47	0.08	78.42	3.40	81.81	7.99	3.19	11.18
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 40

Solar Panel Installation, System Wiring and Trenching, Substation Construction & Inverter Installation										
Weeks 40 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.72	73.56	61.98	0.11	101.25	4.20	105.45	10.30	3.95	14.25
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 40 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	9.03	73.50	64.80	0.11	101.25	4.20	105.45	10.30	3.95	14.25
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 40 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	8.72	73.56	61.98	0.11	101.25	4.20	105.45	10.30	3.95	14.25
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 40 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	9.03	73.50	64.80	0.11	101.25	4.20	105.45	10.30	3.95	14.25
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 41-45

Solar Panel Installation, System Wiring and Trenching, Battery Facility Installation & Inverter Installation										
Weeks 41 - 45 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	9.62	80.98	68.03	0.12	103.31	4.63	107.94	10.51	4.37	14.88
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 41 - 45 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	9.93	80.92	70.85	0.12	103.31	4.63	107.94	10.51	4.37	14.88
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 41 - 45 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	9.62	80.98	68.03	0.12	103.31	4.63	107.94	10.51	4.37	14.88
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 41 - 45 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	9.93	80.92	70.85	0.12	103.31	4.63	107.94	10.51	4.37	14.88
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 46-47

System Wiring and Trenching, Battery Facility Installation & Inverter Installation										
Weeks 46 - 47 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.67	59.15	47.54	0.09	53.67	3.36	57.03	5.44	3.18	8.62
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 46 - 47 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.80	59.12	48.71	0.09	53.67	3.36	57.03	5.44	3.18	8.62
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 46 - 47 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.67	59.15	47.54	0.09	53.67	3.36	57.03	5.44	3.18	8.62
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 46 - 47 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	6.80	59.12	48.71	0.09	53.67	3.36	57.03	5.44	3.18	8.62
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Vega Weeks 48-49

Inverter Installation, Battery Facility Installation, & Paving Driveway										
Weeks 48 - 49 - 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	4.56	41.52	33.84	0.06	38.73	2.30	41.03	3.93	2.16	6.09
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 48 - 49 - 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	4.66	41.49	34.71	0.06	38.73	2.30	41.03	3.93	2.16	6.09
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 48 - 49 - 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	4.56	41.52	33.84	0.06	38.73	2.30	41.03	3.93	2.16	6.09
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			
Weeks 48 - 49 - 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	4.66	41.49	34.71	0.06	38.73	2.30	41.03	3.93	2.16	6.09
ICAPCD Significance	75.00	100.00	550.00				150.00			
CEQA Significant?	No	No	No				No			

Operations HSAT 2019 Week 50

Operations HSAT										
Operations 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			
Operations 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			
Operations 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			
Operations 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			

Operations FF 2019 Week 50

Operations Fixed Frame										
Operations 2018 - Unmitigated Winter										
Winter Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			
Operations 2018 - Unmitigated Summer										
Summer Unmitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			
Operations 2018 - Mitigated Winter										
Winter Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			
Operations 2018 - Mitigated Summer										
Summer Mitigated	Emission Rate (lbs/day)									
	ROG	NOx	CO	SO2	FUGPM10	EXHPM10	TOTPM10	FUGPM2.5	EXHPM2.5	TOTPM2.5
Total	0.08	0.75	0.47	0.00	0.01	0.03	0.04	0.00	0.02	0.03
ICAPCD Significance	55.00	55.00	550.00	150.00			150.00			
CEQA Significant?	No	No	No	No			No			