Appendix A: Air Quality

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A.1 - CalEEMod Output

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CalEEMod Output

Table of Contents

Already Made Improvements to the Facility

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.50	Acre	2.50	0.00	0
Other Non-Asphalt Surfaces	7.50	Acre	7.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2010
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Improvements to the Facility Since the Issuance of the 2008 Conditional Use Permit

Construction Phase - Estimated representation

Off-road Equipment -

Off-road Equipment - Estimated construction equipment

Off-road Equipment - Estimated construction equipment

Trips and VMT - Additional trips added

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblLandUse	LandUseSquareFeet	108,900.00	0.00
tblLandUse	LandUseSquareFeet	326,700.00	0.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Processing Area
tblOffRoadEquipment	PhaseName		Water Well
tblOffRoadEquipment	PhaseName		Processing Area
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2010
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	20.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2010	0.0371	0.3350	0.1914	2.7000e-004	2.1200e-003	0.0207	0.0228	5.7000e-004	0.0191	0.0196	0.0000	26.0821	26.0821	6.8100e-003	0.0000	26.2251
Total	**0.0371**	**0.3350**	**0.1914**	**2.7000e-004**	**2.1200e-003**	**0.0207**	**0.0228**	**5.7000e-004**	**0.0191**	**0.0196**	**0.0000**	**26.0821**	**26.0821**	**6.8100e-003**	**0.0000**	**26.2251**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2010	0.0371	0.3350	0.1914	2.7000e-004	2.1200e-003	0.0207	0.0228	5.7000e-004	0.0191	0.0196	0.0000	26.0821	26.0821	6.8100e-003	0.0000	26.2250
Total	**0.0371**	**0.3350**	**0.1914**	**2.7000e-004**	**2.1200e-003**	**0.0207**	**0.0228**	**5.7000e-004**	**0.0191**	**0.0196**	**0.0000**	**26.0821**	**26.0821**	**6.8100e-003**	**0.0000**	**26.2250**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Processing Area	Building Construction	1/1/2010	1/28/2010	5	20	
2	Asphalt Paving	Paving	1/29/2010	2/11/2010	5	10	
3	Water Well	Grading	2/12/2010	2/25/2010	5	10	

Acres of Grading (Site Preparation Phase): 0
Acres of Grading (Grading Phase): 0
Acres of Paving: 0
Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Processing Area	Cement and Mortar Mixers	1	8.00	9	0.56
Processing Area	Forklifts	1	8.00	89	0.20
Processing Area	Rollers	1	8.00	80	0.38
Processing Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Asphalt Paving	Pavers	2	8.00	125	0.42
Asphalt Paving	Paving Equipment	2	8.00	130	0.36
Asphalt Paving	Rollers	2	8.00	80	0.38
Water Well	Off-Highway Trucks	1	8.00	189	0.38
Water Well	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Processing Area	4	5.00	0.00	20.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	6	15.00	0.00	10.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Water Well	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Processing Area - 2010

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	0.0120	0.1082	0.0612	8.0000e-005		8.3900e-003	8.3900e-003		7.7300e-003	7.7300e-003	0.0000	7.5809	7.5809	2.1200e-003	0.0000	7.6255
Total	**0.0120**	**0.1082**	**0.0612**	**8.0000e-005**		**8.3900e-003**	**8.3900e-003**		**7.7300e-003**	**7.7300e-003**	**0.0000**	**7.5809**	**7.5809**	**2.1200e-003**	**0.0000**	**7.6255**

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	6.1000e-004	5.8900e-003	4.6700e-003	1.0000e-005	1.7000e-004	2.1000e-004	3.8000e-004	5.0000e-005	1.9000e-004	2.4000e-004	0.0000	0.7122	0.7122	1.0000e-005	0.0000	0.7125
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	7.4000e-004	7.2800e-003	1.0000e-005	6.2000e-004	1.0000e-005	6.3000e-004	1.7000e-004	1.0000e-005	1.7000e-004	0.0000	0.6680	0.6680	6.0000e-005	0.0000	0.6692
Total	**1.1000e-003**	**6.6300e-003**	**0.0120**	**2.0000e-005**	**7.9000e-004**	**2.2000e-004**	**1.0100e-003**	**2.2000e-004**	**2.0000e-004**	**4.1000e-004**	**0.0000**	**1.3802**	**1.3802**	**7.0000e-005**	**0.0000**	**1.3817**

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	0.0120	0.1082	0.0612	8.0000e-005		8.3900e-003	8.3900e-003		7.7300e-003	7.7300e-003	0.0000	7.5809	7.5809	2.1200e-003	0.0000	7.6255
Total	**0.0120**	**0.1082**	**0.0612**	**8.0000e-005**		**8.3900e-003**	**8.3900e-003**		**7.7300e-003**	**7.7300e-003**	**0.0000**	**7.5809**	**7.5809**	**2.1200e-003**	**0.0000**	**7.6255**

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	6.1000e-004	5.8900e-003	4.6700e-003	1.0000e-005	1.7000e-004	2.1000e-004	3.8000e-004	5.0000e-005	1.9000e-004	2.4000e-004	0.0000	0.7122	0.7122	1.0000e-005	0.0000	0.7125
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	7.4000e-004	7.2800e-003	1.0000e-005	6.2000e-004	1.0000e-005	6.3000e-004	1.7000e-004	1.0000e-005	1.7000e-004	0.0000	0.6680	0.6680	6.0000e-005	0.0000	0.6692
Total	**1.1000e-003**	**6.6300e-003**	**0.0120**	**2.0000e-005**	**7.9000e-004**	**2.2000e-004**	**1.0100e-003**	**2.2000e-004**	**2.0000e-004**	**4.1000e-004**	**0.0000**	**1.3802**	**1.3802**	**7.0000e-005**	**0.0000**	**1.3817**

3.3 Asphalt Paving - 2010

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	0.0138	0.1523	0.0756	1.1000e-004		8.5600e-003	8.5600e-003		7.8700e-003	7.8700e-003	0.0000	10.8984	10.8984	3.1700e-003	0.0000	10.9650
Paving	3.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0171**	**0.1523**	**0.0756**	**1.1000e-004**		**8.5600e-003**	**8.5600e-003**		**7.8700e-003**	**7.8700e-003**	**0.0000**	**10.8984**	**10.8984**	**3.1700e-003**	**0.0000**	**10.9650**

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	3.1000e-004	2.9400e-003	2.3400e-003	0.0000	9.0000e-005	1.0000e-004	1.9000e-004	2.0000e-005	1.0000e-004	1.2000e-004	0.0000	0.3561	0.3561	1.0000e-005	0.0000	0.3563
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	7.4000e-004	1.1100e-003	0.0109	1.0000e-005	9.3000e-004	1.0000e-005	9.5000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	1.0020	1.0020	9.0000e-005	0.0000	1.0038
Total	**1.0500e-003**	**4.0500e-003**	**0.0133**	**1.0000e-005**	**1.0200e-003**	**1.1000e-004**	**1.1400e-003**	**2.7000e-004**	**1.1000e-004**	**3.8000e-004**	**0.0000**	**1.3581**	**1.3581**	**1.0000e-004**	**0.0000**	**1.3600**

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	0.0138	0.1523	0.0756	1.1000e-004		8.5600e-003	8.5600e-003		7.8700e-003	7.8700e-003	0.0000	10.8984	10.8984	3.1700e-003	0.0000	10.9650
Paving	3.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0171**	**0.1523**	**0.0756**	**1.1000e-004**		**8.5600e-003**	**8.5600e-003**		**7.8700e-003**	**7.8700e-003**	**0.0000**	**10.8984**	**10.8984**	**3.1700e-003**	**0.0000**	**10.9650**

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	3.1000e-004	2.9400e-003	2.3400e-003	0.0000	9.0000e-005	1.0000e-004	1.9000e-004	2.0000e-005	1.0000e-004	1.2000e-004	0.0000	0.3561	0.3561	1.0000e-005	0.0000	0.3563
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	7.4000e-004	1.1100e-003	0.0109	1.0000e-005	9.3000e-004	1.0000e-005	9.5000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	1.0020	1.0020	9.0000e-005	0.0000	1.0038
Total	**1.0500e-003**	**4.0500e-003**	**0.0133**	**1.0000e-005**	**1.0200e-003**	**1.1000e-004**	**1.1400e-003**	**2.7000e-004**	**1.1000e-004**	**3.8000e-004**	**0.0000**	**1.3581**	**1.3581**	**1.0000e-004**	**0.0000**	**1.3600**

3.4 Water Well - 2010

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6100e-003	0.0635	0.0256	5.0000e-005		3.4300e-003	3.4300e-003		3.1600e-003	3.1600e-003	0.0000	4.5305	4.5305	1.3200e-003	0.0000	4.5582
Total	**5.6100e-003**	**0.0635**	**0.0256**	**5.0000e-005**	**0.0000**	**3.4300e-003**	**3.4300e-003**	**0.0000**	**3.1600e-003**	**3.1600e-003**	**0.0000**	**4.5305**	**4.5305**	**1.3200e-003**	**0.0000**	**4.5582**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.7000e-004	3.6400e-003	0.0000	3.1000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.3340	0.3340	3.0000e-005	0.0000	0.3346
Total	**2.5000e-004**	**3.7000e-004**	**3.6400e-003**	**0.0000**	**3.1000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3340**	**0.3340**	**3.0000e-005**	**0.0000**	**0.3346**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6100e-003	0.0635	0.0256	5.0000e-005		3.4300e-003	3.4300e-003		3.1600e-003	3.1600e-003	0.0000	4.5305	4.5305	1.3200e-003	0.0000	4.5582
Total	**5.6100e-003**	**0.0635**	**0.0256**	**5.0000e-005**	**0.0000**	**3.4300e-003**	**3.4300e-003**	**0.0000**	**3.1600e-003**	**3.1600e-003**	**0.0000**	**4.5305**	**4.5305**	**1.3200e-003**	**0.0000**	**4.5582**

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	0.0000	0.0000	0.0000	0.0000	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	2.5000e-004	3.7000e-004	3.6400e-003	0.0000	3.1000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.3340	0.3340	3.0000e-005	0.0000	0.3346
Total	**2.5000e-004**	**3.7000e-004**	**3.6400e-003**	**0.0000**	**3.1000e-004**	**0.0000**	**3.2000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3340**	**0.3340**	**3.0000e-005**	**0.0000**	**0.3346**

Already Made Improvements to the Facility

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.50	Acre	2.50	0.00	0
Other Non-Asphalt Surfaces	7.50	Acre	7.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2010
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Improvements to the Facility Since the Issuance of the 2008 Conditional Use Permit

Construction Phase - Estimated representation

Off-road Equipment -

Off-road Equipment - Estimated construction equipment

Off-road Equipment - Estimated construction equipment

Trips and VMT - Additional trips added

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblLandUse	LandUseSquareFeet	108,900.00	0.00
tblLandUse	LandUseSquareFeet	326,700.00	0.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Processing Area
tblOffRoadEquipment	PhaseName		Water Well
tblOffRoadEquipment	PhaseName		Processing Area
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2010
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	20.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2010	3.6405	31.2190	18.0445	0.0255	0.2091	1.7348	1.9439	0.0556	1.5959	1.6516	0.0000	2,722.9259	2,722.9259	0.7198	0.0000	2,738.0413
Total	**3.6405**	**31.2190**	**18.0445**	**0.0255**	**0.2091**	**1.7348**	**1.9439**	**0.0556**	**1.5959**	**1.6516**	**0.0000**	**2,722.9259**	**2,722.9259**	**0.7198**	**0.0000**	**2,738.0413**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2010	3.6405	31.2190	18.0445	0.0255	0.2091	1.7348	1.9439	0.0556	1.5959	1.6516	0.0000	2,722.9259	2,722.9259	0.7198	0.0000	2,738.0413
Total	**3.6405**	**31.2190**	**18.0445**	**0.0255**	**0.2091**	**1.7348**	**1.9439**	**0.0556**	**1.5959**	**1.6516**	**0.0000**	**2,722.9259**	**2,722.9259**	**0.7198**	**0.0000**	**2,738.0413**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Processing Area	Building Construction	1/1/2010	1/28/2010	5	20	
2	Asphalt Paving	Paving	1/29/2010	2/11/2010	5	10	
3	Water Well	Grading	2/12/2010	2/25/2010	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Processing Area	Cement and Mortar Mixers	1	8.00	9	0.56
Processing Area	Forklifts	1	8.00	89	0.20
Processing Area	Rollers	1	8.00	80	0.38
Processing Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Asphalt Paving	Pavers	2	8.00	125	0.42
Asphalt Paving	Paving Equipment	2	8.00	130	0.36
Asphalt Paving	Rollers	2	8.00	80	0.38
Water Well	Off-Highway Trucks	1	8.00	189	0.38
Water Well	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Processing Area	4	5.00	0.00	20.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	6	15.00	0.00	10.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Water Well	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Processing Area - 2010

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	1.2035	10.8185	6.1243	7.9900e-003		0.8386	0.8386		0.7734	0.7734		835.6467	835.6467	0.2342		840.5654
Total	**1.2035**	**10.8185**	**6.1243**	**7.9900e-003**		**0.8386**	**0.8386**		**0.7734**	**0.7734**		**835.6467**	**835.6467**	**0.2342**		**840.5654**

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	0.0573	0.5621	0.4378	7.6000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0191	0.0239		78.5856	78.5856	1.4400e-003		78.6159
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	0.0557	0.0671	0.8259	8.2000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		80.5505	80.5505	6.3200e-003		80.6833
Total	**0.1130**	**0.6292**	**1.2637**	**1.5800e-003**	**0.0814**	**0.0217**	**0.1031**	**0.0217**	**0.0199**	**0.0417**		**159.1361**	**159.1361**	**7.7600e-003**		**159.2992**

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	1.2035	10.8185	6.1243	7.9900e-003		0.8386	0.8386		0.7734	0.7734	0.0000	835.6467	835.6467	0.2342		840.5654
Total	**1.2035**	**10.8185**	**6.1243**	**7.9900e-003**		**0.8386**	**0.8386**		**0.7734**	**0.7734**	**0.0000**	**835.6467**	**835.6467**	**0.2342**		**840.5654**

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	0.0573	0.5621	0.4378	7.6000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0191	0.0239		78.5856	78.5856	1.4400e-003		78.6159
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	0.0557	0.0671	0.8259	8.2000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		80.5505	80.5505	6.3200e-003		80.6833
Total	**0.1130**	**0.6292**	**1.2637**	**1.5800e-003**	**0.0814**	**0.0217**	**0.1031**	**0.0217**	**0.0199**	**0.0417**		**159.1361**	**159.1361**	**7.7600e-003**		**159.2992**

3.3 Asphalt Paving - 2010

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	2.7612	30.4556	15.1289	0.0223		1.7113	1.7113		1.5744	1.5744		2,402.6887	2,402.6887	0.6994		2,417.3755
Paving	0.6550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.4162**	**30.4556**	**15.1289**	**0.0223**		**1.7113**	**1.7113**		**1.5744**	**1.5744**		**2,402.6887**	**2,402.6887**	**0.6994**		**2,417.3755**

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	0.0573	0.5621	0.4378	7.6000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0191	0.0239		78.5856	78.5856	1.4400e-003		78.6159
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	0.1670	0.2014	2.4777	2.4700e-003	0.1916	2.7600e-003	0.1944	0.0508	2.4900e-003	0.0533		241.6515	241.6515	0.0190		242.0500
Total	**0.2243**	**0.7634**	**2.9156**	**3.2300e-003**	**0.2091**	**0.0235**	**0.2326**	**0.0556**	**0.0216**	**0.0772**		**320.2372**	**320.2372**	**0.0204**		**320.6659**

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	2.7612	30.4556	15.1289	0.0223		1.7113	1.7113		1.5744	1.5744	0.0000	2,402.6887	2,402.6887	0.6994		2,417.3755
Paving	0.6550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.4162**	**30.4556**	**15.1289**	**0.0223**		**1.7113**	**1.7113**		**1.5744**	**1.5744**	**0.0000**	**2,402.6887**	**2,402.6887**	**0.6994**		**2,417.3755**

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	0.0573	0.5621	0.4378	7.6000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0191	0.0239		78.5856	78.5856	1.4400e-003		78.6159
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	0.1670	0.2014	2.4777	2.4700e-003	0.1916	2.7600e-003	0.1944	0.0508	2.4900e-003	0.0533		241.6515	241.6515	0.0190		242.0500
Total	**0.2243**	**0.7634**	**2.9156**	**3.2300e-003**	**0.2091**	**0.0235**	**0.2326**	**0.0556**	**0.0216**	**0.0772**		**320.2372**	**320.2372**	**0.0204**		**320.6659**

3.4 Water Well - 2010

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1212	12.6929	5.1256	9.2700e-003		0.6863	0.6863		0.6314	0.6314		998.8132	998.8132	0.2907		1,004.9185
Total	**1.1212**	**12.6929**	**5.1256**	**9.2700e-003**	**0.0000**	**0.6863**	**0.6863**	**0.0000**	**0.6314**	**0.6314**		**998.8132**	**998.8132**	**0.2907**		**1,004.9185**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0557	0.0671	0.8259	8.2000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		80.5505	80.5505	6.3200e-003		80.6833
Total	**0.0557**	**0.0671**	**0.8259**	**8.2000e-004**	**0.0639**	**9.2000e-004**	**0.0648**	**0.0169**	**8.3000e-004**	**0.0178**		**80.5505**	**80.5505**	**6.3200e-003**		**80.6833**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1212	12.6929	5.1256	9.2700e-003		0.6863	0.6863		0.6314	0.6314	0.0000	998.8132	998.8132	0.2907		1,004.9185
Total	**1.1212**	**12.6929**	**5.1256**	**9.2700e-003**	**0.0000**	**0.6863**	**0.6863**	**0.0000**	**0.6314**	**0.6314**	**0.0000**	**998.8132**	**998.8132**	**0.2907**		**1,004.9185**

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	0.0000	0.0000	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	0.0557	0.0671	0.8259	8.2000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		80.5505	80.5505	6.3200e-003		80.6833
Total	**0.0557**	**0.0671**	**0.8259**	**8.2000e-004**	**0.0639**	**9.2000e-004**	**0.0648**	**0.0169**	**8.3000e-004**	**0.0178**		**80.5505**	**80.5505**	**6.3200e-003**		**80.6833**

Already Made Improvements to the Facility

Stanislaus County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.50	Acre	2.50	0.00	0
Other Non-Asphalt Surfaces	7.50	Acre	7.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2010
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Improvements to the Facility Since the Issuance of the 2008 Conditional Use Permit

Construction Phase - Estimated representation

Off-road Equipment -

Off-road Equipment - Estimated construction equipment

Off-road Equipment - Estimated construction equipment

Trips and VMT - Additional trips added

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblLandUse	LandUseSquareFeet	108,900.00	0.00
tblLandUse	LandUseSquareFeet	326,700.00	0.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Processing Area
tblOffRoadEquipment	PhaseName		Water Well
tblOffRoadEquipment	PhaseName		Processing Area
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2010
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	20.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2010	3.6382	31.2963	17.8593	0.0252	0.2091	1.7349	1.9440	0.0556	1.5960	1.6516	0.0000	2,694.7812	2,694.7812	0.7198	0.0000	2,709.8969
Total	**3.6382**	**31.2963**	**17.8593**	**0.0252**	**0.2091**	**1.7349**	**1.9440**	**0.0556**	**1.5960**	**1.6516**	**0.0000**	**2,694.7812**	**2,694.7812**	**0.7198**	**0.0000**	**2,709.8969**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2010	3.6382	31.2963	17.8593	0.0252	0.2091	1.7349	1.9440	0.0556	1.5960	1.6516	0.0000	2,694.7812	2,694.7812	0.7198	0.0000	2,709.8969
Total	**3.6382**	**31.2963**	**17.8593**	**0.0252**	**0.2091**	**1.7349**	**1.9440**	**0.0556**	**1.5960**	**1.6516**	**0.0000**	**2,694.7812**	**2,694.7812**	**0.7198**	**0.0000**	**2,709.8969**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Processing Area	Building Construction	1/1/2010	1/28/2010	5	20	
2	Asphalt Paving	Paving	1/29/2010	2/11/2010	5	10	
3	Water Well	Grading	2/12/2010	2/25/2010	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Processing Area	Cement and Mortar Mixers	1	8.00	9	0.56
Processing Area	Forklifts	1	8.00	89	0.20
Processing Area	Rollers	1	8.00	80	0.38
Processing Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Asphalt Paving	Pavers	2	8.00	125	0.42
Asphalt Paving	Paving Equipment	2	8.00	130	0.36
Asphalt Paving	Rollers	2	8.00	80	0.38
Water Well	Off-Highway Trucks	1	8.00	189	0.38
Water Well	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Processing Area	4	5.00	0.00	20.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	6	15.00	0.00	10.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Water Well	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Processing Area - 2010

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	1.2035	10.8185	6.1243	7.9900e-003		0.8386	0.8386		0.7734	0.7734		835.6467	835.6467	0.2342		840.5654
Total	**1.2035**	**10.8185**	**6.1243**	**7.9900e-003**		**0.8386**	**0.8386**		**0.7734**	**0.7734**		**835.6467**	**835.6467**	**0.2342**		**840.5654**

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	0.0675	0.5985	0.5188	7.5000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0192	0.0240		78.4047	78.4047	1.4500e-003		78.4352
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	0.0515	0.0807	0.7372	7.3000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		71.2293	71.2293	6.3200e-003		71.3621
Total	**0.1190**	**0.6792**	**1.2560**	**1.4800e-003**	**0.0814**	**0.0218**	**0.1031**	**0.0217**	**0.0200**	**0.0417**		**149.6340**	**149.6340**	**7.7700e-003**		**149.7973**

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	1.2035	10.8185	6.1243	7.9900e-003		0.8386	0.8386		0.7734	0.7734	0.0000	835.6467	835.6467	0.2342		840.5654
Total	**1.2035**	**10.8185**	**6.1243**	**7.9900e-003**		**0.8386**	**0.8386**		**0.7734**	**0.7734**	**0.0000**	**835.6467**	**835.6467**	**0.2342**		**840.5654**

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	0.0675	0.5985	0.5188	7.5000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0192	0.0240		78.4047	78.4047	1.4500e-003		78.4352
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	0.0515	0.0807	0.7372	7.3000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		71.2293	71.2293	6.3200e-003		71.3621
Total	**0.1190**	**0.6792**	**1.2560**	**1.4800e-003**	**0.0814**	**0.0218**	**0.1031**	**0.0217**	**0.0200**	**0.0417**		**149.6340**	**149.6340**	**7.7700e-003**		**149.7973**

3.3 Asphalt Paving - 2010

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	2.7612	30.4556	15.1289	0.0223		1.7113	1.7113		1.5744	1.5744		2,402.6887	2,402.6887	0.6994		2,417.3755
Paving	0.6550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.4162**	**30.4556**	**15.1289**	**0.0223**		**1.7113**	**1.7113**		**1.5744**	**1.5744**		**2,402.6887**	**2,402.6887**	**0.6994**		**2,417.3755**

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	0.0675	0.5985	0.5188	7.5000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0192	0.0240		78.4047	78.4047	1.4500e-003		78.4352
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	0.1545	0.2422	2.2116	2.1800e-003	0.1916	2.7600e-003	0.1944	0.0508	2.4900e-003	0.0533		213.6878	213.6878	0.0190		214.0862
Total	**0.2220**	**0.8407**	**2.7304**	**2.9300e-003**	**0.2091**	**0.0236**	**0.2327**	**0.0556**	**0.0216**	**0.0773**		**292.0925**	**292.0925**	**0.0204**		**292.5214**

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	2.7612	30.4556	15.1289	0.0223		1.7113	1.7113		1.5744	1.5744	0.0000	2,402.6887	2,402.6887	0.6994		2,417.3755
Paving	0.6550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.4162**	**30.4556**	**15.1289**	**0.0223**		**1.7113**	**1.7113**		**1.5744**	**1.5744**	**0.0000**	**2,402.6887**	**2,402.6887**	**0.6994**		**2,417.3755**

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	0.0675	0.5985	0.5188	7.5000e-004	0.0175	0.0208	0.0383	4.8000e-003	0.0192	0.0240		78.4047	78.4047	1.4500e-003		78.4352
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	0.1545	0.2422	2.2116	2.1800e-003	0.1916	2.7600e-003	0.1944	0.0508	2.4900e-003	0.0533		213.6878	213.6878	0.0190		214.0862
Total	**0.2220**	**0.8407**	**2.7304**	**2.9300e-003**	**0.2091**	**0.0236**	**0.2327**	**0.0556**	**0.0216**	**0.0773**		**292.0925**	**292.0925**	**0.0204**		**292.5214**

3.4 Water Well - 2010

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1212	12.6929	5.1256	9.2700e-003		0.6863	0.6863		0.6314	0.6314		998.8132	998.8132	0.2907		1,004.9185
Total	**1.1212**	**12.6929**	**5.1256**	**9.2700e-003**	**0.0000**	**0.6863**	**0.6863**	**0.0000**	**0.6314**	**0.6314**		**998.8132**	**998.8132**	**0.2907**		**1,004.9185**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0807	0.7372	7.3000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		71.2293	71.2293	6.3200e-003		71.3621
Total	**0.0515**	**0.0807**	**0.7372**	**7.3000e-004**	**0.0639**	**9.2000e-004**	**0.0648**	**0.0169**	**8.3000e-004**	**0.0178**		**71.2293**	**71.2293**	**6.3200e-003**		**71.3621**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.1212	12.6929	5.1256	9.2700e-003		0.6863	0.6863		0.6314	0.6314	0.0000	998.8132	998.8132	0.2907		1,004.9185
Total	**1.1212**	**12.6929**	**5.1256**	**9.2700e-003**	**0.0000**	**0.6863**	**0.6863**	**0.0000**	**0.6314**	**0.6314**	**0.0000**	**998.8132**	**998.8132**	**0.2907**		**1,004.9185**

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	0.0000	0.0000	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	0.0515	0.0807	0.7372	7.3000e-004	0.0639	9.2000e-004	0.0648	0.0169	8.3000e-004	0.0178		71.2293	71.2293	6.3200e-003		71.3621
Total	**0.0515**	**0.0807**	**0.7372**	**7.3000e-004**	**0.0639**	**9.2000e-004**	**0.0648**	**0.0169**	**8.3000e-004**	**0.0178**		**71.2293**	**71.2293**	**6.3200e-003**		**71.3621**

4875.0001 Recology BVON - Year 1 (2016)

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	18.20	User Defined Unit	2.65	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 1 (2016): Ponds and Conveyance

Land Use - Ponds and Conveyance
Treatment Pond: 0.2 Ac, 0.8 AF
West Pond: 1.4 Ac, 10.7
East Pond: 1.05 C, 6.4 AF

Construction Phase - Year 1 (2016)
Commenced Summer of 2016

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Grading - Equivalent of approximately 18.2 acres to be disturbed

Trips and VMT - Vendor trips added to account for delivery of material

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	153.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblGrading	AcresOfGrading	76.50	18.20
tblLandUse	LotAcreage	0.00	2.65
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.2983	3.1231	2.0377	2.6600e-003	0.4855	0.1649	0.6504	0.2583	0.1517	0.4100	0.0000	246.8964	246.8964	0.0704	0.0000	248.3753
Total	**0.2983**	**3.1231**	**2.0377**	**2.6600e-003**	**0.4855**	**0.1649**	**0.6504**	**0.2583**	**0.1517**	**0.4100**	**0.0000**	**246.8964**	**246.8964**	**0.0704**	**0.0000**	**248.3753**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.2983	3.1231	2.0377	2.6600e-003	0.2268	0.1649	0.3917	0.1185	0.1517	0.2702	0.0000	246.8961	246.8961	0.0704	0.0000	248.3750
Total	**0.2983**	**3.1231**	**2.0377**	**2.6600e-003**	**0.2268**	**0.1649**	**0.3917**	**0.1185**	**0.1517**	**0.2702**	**0.0000**	**246.8961**	**246.8961**	**0.0704**	**0.0000**	**248.3750**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.28**	**0.00**	**39.77**	**54.14**	**0.00**	**34.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2016	12/31/2016	5	153	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.2

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grading	Off-Highway Trucks	1	8.00	189	0.38
Grading	Excavators	1	8.00	162	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4703	0.0000	0.4703	0.2543	0.0000	0.2543	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2915	3.1016	1.9432	2.4500e-003		0.1645	0.1645		0.1514	0.1514	0.0000	231.2119	231.2119	0.0697	0.0000	232.6765
Total	**0.2915**	**3.1016**	**1.9432**	**2.4500e-003**	**0.4703**	**0.1645**	**0.6349**	**0.2543**	**0.1514**	**0.4056**	**0.0000**	**231.2119**	**231.2119**	**0.0697**	**0.0000**	**232.6765**

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	1.7400e-003	0.0141	0.0202	3.0000e-005	9.0000e-004	2.4000e-004	1.1400e-003	2.6000e-004	2.2000e-004	4.8000e-004	0.0000	3.0088	3.0088	3.0000e-005	0.0000	3.0093
Worker	5.0200e-003	7.4500e-003	0.0742	1.7000e-004	0.0143	1.1000e-004	0.0144	3.7900e-003	1.0000e-004	3.8900e-003	0.0000	12.6757	12.6757	6.5000e-004	0.0000	12.6895
Total	**6.7600e-003**	**0.0215**	**0.0945**	**2.0000e-004**	**0.0152**	**3.5000e-004**	**0.0155**	**4.0500e-003**	**3.2000e-004**	**4.3700e-003**	**0.0000**	**15.6845**	**15.6845**	**6.8000e-004**	**0.0000**	**15.6988**

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					0.2117	0.0000	0.2117	0.1144	0.0000	0.1144	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2915	3.1016	1.9432	2.4500e-003		0.1645	0.1645		0.1514	0.1514	0.0000	231.2116	231.2116	0.0697	0.0000	232.6762
Total	**0.2915**	**3.1016**	**1.9432**	**2.4500e-003**	**0.2117**	**0.1645**	**0.3762**	**0.1144**	**0.1514**	**0.2658**	**0.0000**	**231.2116**	**231.2116**	**0.0697**	**0.0000**	**232.6762**

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	1.7400e-003	0.0141	0.0202	3.0000e-005	9.0000e-004	2.4000e-004	1.1400e-003	2.6000e-004	2.2000e-004	4.8000e-004	0.0000	3.0088	3.0088	3.0000e-005	0.0000	3.0093
Worker	5.0200e-003	7.4500e-003	0.0742	1.7000e-004	0.0143	1.1000e-004	0.0144	3.7900e-003	1.0000e-004	3.8900e-003	0.0000	12.6757	12.6757	6.5000e-004	0.0000	12.6895
Total	**6.7600e-003**	**0.0215**	**0.0945**	**2.0000e-004**	**0.0152**	**3.5000e-004**	**0.0155**	**4.0500e-003**	**3.2000e-004**	**4.3700e-003**	**0.0000**	**15.6845**	**15.6845**	**6.8000e-004**	**0.0000**	**15.6988**

4875.0001 Recology BVON - Year 1 (2016)

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	18.20	User Defined Unit	2.65	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 1 (2016): Ponds and Conveyance

Land Use - Ponds and Conveyance
Treatment Pond: 0.2 Ac, 0.8 AF
West Pond: 1.4 Ac, 10.7
East Pond: 1.05 C, 6.4 AF
Construction Phase - Year 1 (2016)
Commenced Summer of 2016

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Grading - Equivalent of approximately 18.2 acres to be disturbed

Trips and VMT - Vendor trips added to account for delivery of material

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	153.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblGrading	AcresOfGrading	76.50	18.20
tblLandUse	LotAcreage	0.00	2.65
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.9081	40.8099	26.7292	0.0349	6.3519	2.1553	8.5071	3.3781	1.9828	5.3609	0.0000	3,575.3814	3,575.3814	1.0147	0.0000	3,596.6906
Total	**3.9081**	**40.8099**	**26.7292**	**0.0349**	**6.3519**	**2.1553**	**8.5071**	**3.3781**	**1.9828**	**5.3609**	**0.0000**	**3,575.3814**	**3,575.3814**	**1.0147**	**0.0000**	**3,596.6906**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.9081	40.8099	26.7292	0.0349	2.9703	2.1553	5.1256	1.5500	1.9828	3.5328	0.0000	3,575.3814	3,575.3814	1.0147	0.0000	3,596.6906
Total	**3.9081**	**40.8099**	**26.7292**	**0.0349**	**2.9703**	**2.1553**	**5.1256**	**1.5500**	**1.9828**	**3.5328**	**0.0000**	**3,575.3814**	**3,575.3814**	**1.0147**	**0.0000**	**3,596.6906**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.24**	**0.00**	**39.75**	**54.12**	**0.00**	**34.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2016	12/31/2016	5	153	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.2

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grading	Off-Highway Trucks	1	8.00	189	0.38
Grading	Excavators	1	8.00	162	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1482	0.0000	6.1482	3.3239	0.0000	3.3239			0.0000			0.0000
Off-Road	3.8106	40.5441	25.4018	0.0320		2.1507	2.1507		1.9786	1.9786		3,331.6010	3,331.6010	1.0049		3,352.7045
Total	**3.8106**	**40.5441**	**25.4018**	**0.0320**	**6.1482**	**2.1507**	**8.2989**	**3.3239**	**1.9786**	**5.3025**		**3,331.6010**	**3,331.6010**	**1.0049**		**3,352.7045**

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	0.0209	0.1767	0.2095	4.3000e-004	0.0120	3.1600e-003	0.0152	3.4400e-003	2.9100e-003	6.3400e-003		43.5070	43.5070	3.8000e-004		43.5149
Worker	0.0766	0.0891	1.1179	2.4600e-003	0.1916	1.4300e-003	0.1930	0.0508	1.3100e-003	0.0521		200.2735	200.2735	9.4100e-003		200.4712
Total	**0.0975**	**0.2658**	**1.3274**	**2.8900e-003**	**0.2036**	**4.5900e-003**	**0.2082**	**0.0543**	**4.2200e-003**	**0.0585**		**243.7804**	**243.7804**	**9.7900e-003**		**243.9861**

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					2.7667	0.0000	2.7667	1.4957	0.0000	1.4957			0.0000			0.0000
Off-Road	3.8106	40.5441	25.4018	0.0320		2.1507	2.1507		1.9786	1.9786	0.0000	3,331.6010	3,331.6010	1.0049		3,352.7045
Total	**3.8106**	**40.5441**	**25.4018**	**0.0320**	**2.7667**	**2.1507**	**4.9174**	**1.4957**	**1.9786**	**3.4744**	**0.0000**	**3,331.6010**	**3,331.6010**	**1.0049**		**3,352.7045**

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	0.0209	0.1767	0.2095	4.3000e-004	0.0120	3.1600e-003	0.0152	3.4400e-003	2.9100e-003	6.3400e-003		43.5070	43.5070	3.8000e-004		43.5149
Worker	0.0766	0.0891	1.1179	2.4600e-003	0.1916	1.4300e-003	0.1930	0.0508	1.3100e-003	0.0521		200.2735	200.2735	9.4100e-003		200.4712
Total	**0.0975**	**0.2658**	**1.3274**	**2.8900e-003**	**0.2036**	**4.5900e-003**	**0.2082**	**0.0543**	**4.2200e-003**	**0.0585**		**243.7804**	**243.7804**	**9.7900e-003**		**243.9861**

4875.0001 Recology BVON - Year 1 (2016)

Stanislaus County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	18.20	User Defined Unit	2.65	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 1 (2016): Ponds and Conveyance

Land Use - Ponds and Conveyance
Treatment Pond: 0.2 Ac, 0.8 AF
Construction Phase - Year 1 (2016)
Commenced Summer of 2016
Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Grading - Equivalent of approximately 18.2 acres to be disturbed

Trips and VMT - Vendor trips added to account for delivery of material

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	153.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblGrading	AcresOfGrading	76.50	18.20
tblLandUse	LotAcreage	0.00	2.65
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.9038	40.8369	26.6998	0.0346	6.3519	2.1553	8.5072	3.3781	1.9829	5.3610	0.0000	3,551.2688	3,551.2688	1.0147	0.0000	3,572.5782
Total	**3.9038**	**40.8369**	**26.6998**	**0.0346**	**6.3519**	**2.1553**	**8.5072**	**3.3781**	**1.9829**	**5.3610**	**0.0000**	**3,551.2688**	**3,551.2688**	**1.0147**	**0.0000**	**3,572.5782**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.9038	40.8369	26.6998	0.0346	2.9703	2.1553	5.1257	1.5500	1.9829	3.5329	0.0000	3,551.2688	3,551.2688	1.0147	0.0000	3,572.5782
Total	**3.9038**	**40.8369**	**26.6998**	**0.0346**	**2.9703**	**2.1553**	**5.1257**	**1.5500**	**1.9829**	**3.5329**	**0.0000**	**3,551.2688**	**3,551.2688**	**1.0147**	**0.0000**	**3,572.5782**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.24**	**0.00**	**39.75**	**54.12**	**0.00**	**34.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2016	12/31/2016	5	153	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.2

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Grading	Off-Highway Trucks	1	8.00	189	0.38
Grading	Excavators	1	8.00	162	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1482	0.0000	6.1482	3.3239	0.0000	3.3239			0.0000			0.0000
Off-Road	3.8106	40.5441	25.4018	0.0320		2.1507	2.1507		1.9786	1.9786		3,331.6010	3,331.6010	1.0049		3,352.7045
Total	**3.8106**	**40.5441**	**25.4018**	**0.0320**	**6.1482**	**2.1507**	**8.2989**	**3.3239**	**1.9786**	**5.3025**		**3,331.6010**	**3,331.6010**	**1.0049**		**3,352.7045**

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	0.0258	0.1860	0.3317	4.3000e-004	0.0120	3.2100e-003	0.0153	3.4400e-003	2.9500e-003	6.3900e-003		43.1439	43.1439	3.9000e-004		43.1521
Worker	0.0675	0.1067	0.9664	2.1700e-003	0.1916	1.4300e-003	0.1930	0.0508	1.3100e-003	0.0521		176.5240	176.5240	9.4100e-003		176.7216
Total	**0.0932**	**0.2927**	**1.2981**	**2.6000e-003**	**0.2036**	**4.6400e-003**	**0.2083**	**0.0543**	**4.2600e-003**	**0.0585**		**219.6678**	**219.6678**	**9.8000e-003**		**219.8737**

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					2.7667	0.0000	2.7667	1.4957	0.0000	1.4957			0.0000			0.0000
Off-Road	3.8106	40.5441	25.4018	0.0320		2.1507	2.1507		1.9786	1.9786	0.0000	3,331.6010	3,331.6010	1.0049		3,352.7045
Total	**3.8106**	**40.5441**	**25.4018**	**0.0320**	**2.7667**	**2.1507**	**4.9174**	**1.4957**	**1.9786**	**3.4744**	**0.0000**	**3,331.6010**	**3,331.6010**	**1.0049**		**3,352.7045**

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	0.0258	0.1860	0.3317	4.3000e-004	0.0120	3.2100e-003	0.0153	3.4400e-003	2.9500e-003	6.3900e-003		43.1439	43.1439	3.9000e-004		43.1521
Worker	0.0675	0.1067	0.9664	2.1700e-003	0.1916	1.4300e-003	0.1930	0.0508	1.3100e-003	0.0521		176.5240	176.5240	9.4100e-003		176.7216
Total	**0.0932**	**0.2927**	**1.2981**	**2.6000e-003**	**0.2036**	**4.6400e-003**	**0.2083**	**0.0543**	**4.2600e-003**	**0.0585**		**219.6678**	**219.6678**	**9.8000e-003**		**219.8737**

4875.0001 Recology BVON - Year 2 (2017)

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	6.50	User Defined Unit	6.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 2 (2017): 6.5 acres of Cure Area

Land Use - Year 2 (2017): 6.5 acres of Cure Area

Construction Phase - Year 2 (2017)

Energy Use -

Construction Off-road Equipment Mitigation -

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Off-road Equipment - Estimated construction equipment for Construction of Equipment Wash

Off-road Equipment - Similar equipment used to represent expected equipment

Off-road Equipment - Expected construction equipment

Trips and VMT - Additional worker and vendor trips were added to the Construction of Equipment Wash phase.
1,343 hauling trips added to account for concrete and aggregate base to be delivered in 2017.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	230.00	20.00
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	6.50
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,343.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.1283	1.3083	0.9714	1.6700e-003	0.2242	0.0636	0.2878	0.1164	0.0589	0.1753	0.0000	150.0180	150.0180	0.0291	0.0000	150.6293
Total	**0.1283**	**1.3083**	**0.9714**	**1.6700e-003**	**0.2242**	**0.0636**	**0.2878**	**0.1164**	**0.0589**	**0.1753**	**0.0000**	**150.0180**	**150.0180**	**0.0291**	**0.0000**	**150.6293**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.1283	1.3083	0.9714	1.6700e-003	0.1113	0.0636	0.1749	0.0552	0.0589	0.1141	0.0000	150.0179	150.0179	0.0291	0.0000	150.6292
Total	**0.1283**	**1.3083**	**0.9714**	**1.6700e-003**	**0.1113**	**0.0636**	**0.1749**	**0.0552**	**0.0589**	**0.1141**	**0.0000**	**150.0179**	**150.0179**	**0.0291**	**0.0000**	**150.6292**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**50.35**	**0.00**	**39.21**	**52.57**	**0.00**	**34.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2017	4/4/2017	5	67	
2	Paving	Paving	4/5/2017	7/6/2017	5	67	
3	Construction of Equipment Wash	Building Construction	7/7/2017	8/3/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Construction of Equipment Wash	Cranes	1	7.00	226	0.29
Construction of Equipment Wash	Forklifts	1	8.00	89	0.20
Construction of Equipment Wash	Generator Sets	1	8.00	84	0.74
Construction of Equipment Wash	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction of Equipment Wash	Welders	1	8.00	46	0.45
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,343.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction of Equipment Wash	5	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2017

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					0.2052	0.0000	0.2052	0.1113	0.0000	0.1113	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0804	0.8648	0.6026	7.9000e-004		0.0429	0.0429		0.0394	0.0394	0.0000	72.9200	72.9200	0.0223	0.0000	73.3892
Total	**0.0804**	**0.8648**	**0.6026**	**7.9000e-004**	**0.2052**	**0.0429**	**0.2481**	**0.1113**	**0.0394**	**0.1507**	**0.0000**	**72.9200**	**72.9200**	**0.0223**	**0.0000**	**73.3892**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2700e-003	1.9200e-003	0.0190	5.0000e-005	4.1600e-003	3.0000e-005	4.1900e-003	1.1100e-003	3.0000e-005	1.1300e-003	0.0000	3.5484	3.5484	1.7000e-004	0.0000	3.5520
Total	**1.2700e-003**	**1.9200e-003**	**0.0190**	**5.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.1900e-003**	**1.1100e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.5484**	**3.5484**	**1.7000e-004**	**0.0000**	**3.5520**

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					0.0923	0.0000	0.0923	0.0501	0.0000	0.0501	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0804	0.8648	0.6026	7.9000e-004		0.0429	0.0429		0.0394	0.0394	0.0000	72.9199	72.9199	0.0223	0.0000	73.3891
Total	**0.0804**	**0.8648**	**0.6026**	**7.9000e-004**	**0.0923**	**0.0429**	**0.1352**	**0.0501**	**0.0394**	**0.0895**	**0.0000**	**72.9199**	**72.9199**	**0.0223**	**0.0000**	**73.3891**

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	0.0000	0.0000	0.0000	0.0000	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	1.2700e-003	1.9200e-003	0.0190	5.0000e-005	4.1600e-003	3.0000e-005	4.1900e-003	1.1100e-003	3.0000e-005	1.1300e-003	0.0000	3.5484	3.5484	1.7000e-004	0.0000	3.5520
Total	**1.2700e-003**	**1.9200e-003**	**0.0190**	**5.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.1900e-003**	**1.1100e-003**	**3.0000e-005**	**1.1300e-003**	**0.0000**	**3.5484**	**3.5484**	**1.7000e-004**	**0.0000**	**3.5520**

3.3 Paving - 2017

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	0.0124	0.1095	0.0770	1.1000e-004		7.5300e-003	7.5300e-003		6.9700e-003	6.9700e-003	0.0000	9.6849	9.6849	2.6600e-003	0.0000	9.7407
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0124**	**0.1095**	**0.0770**	**1.1000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9700e-003**	**6.9700e-003**	**0.0000**	**9.6849**	**9.6849**	**2.6600e-003**	**0.0000**	**9.7407**

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	0.0119	0.1563	0.1433	5.0000e-004	0.0115	2.3800e-003	0.0139	3.1600e-003	2.1900e-003	5.3500e-003	0.0000	44.9711	44.9711	3.3000e-004	0.0000	44.9780
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	6.3000e-004	9.6000e-004	9.4800e-003	3.0000e-005	2.0800e-003	2.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.7742	1.7742	9.0000e-005	0.0000	1.7760
Total	**0.0126**	**0.1573**	**0.1527**	**5.3000e-004**	**0.0136**	**2.4000e-003**	**0.0160**	**3.7100e-003**	**2.2000e-003**	**5.9200e-003**	**0.0000**	**46.7453**	**46.7453**	**4.2000e-004**	**0.0000**	**46.7540**

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	0.0124	0.1095	0.0770	1.1000e-004		7.5300e-003	7.5300e-003		6.9700e-003	6.9700e-003	0.0000	9.6849	9.6849	2.6600e-003	0.0000	9.7407
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0124**	**0.1095**	**0.0770**	**1.1000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9700e-003**	**6.9700e-003**	**0.0000**	**9.6849**	**9.6849**	**2.6600e-003**	**0.0000**	**9.7407**

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	0.0119	0.1563	0.1433	5.0000e-004	0.0115	2.3800e-003	0.0139	3.1600e-003	2.1900e-003	5.3500e-003	0.0000	44.9711	44.9711	3.3000e-004	0.0000	44.9780
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	6.3000e-004	9.6000e-004	9.4800e-003	3.0000e-005	2.0800e-003	2.0000e-005	2.1000e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.7742	1.7742	9.0000e-005	0.0000	1.7760
Total	**0.0126**	**0.1573**	**0.1527**	**5.3000e-004**	**0.0136**	**2.4000e-003**	**0.0160**	**3.7100e-003**	**2.2000e-003**	**5.9200e-003**	**0.0000**	**46.7453**	**46.7453**	**4.2000e-004**	**0.0000**	**46.7540**

3.4 Construction of Equipment Wash - 2017

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	0.0213	0.1743	0.1144	1.8000e-004		0.0108	0.0108		0.0103	0.0103	0.0000	16.0602	16.0602	3.4800e-003	0.0000	16.1332
Total	**0.0213**	**0.1743**	**0.1144**	**1.8000e-004**		**0.0108**	**0.0108**		**0.0103**	**0.0103**	**0.0000**	**16.0602**	**16.0602**	**3.4800e-003**	**0.0000**	**16.1332**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	5.7000e-004	5.6600e-003	1.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0592	1.0592	5.0000e-005	0.0000	1.0603
Total	**3.8000e-004**	**5.7000e-004**	**5.6600e-003**	**1.0000e-005**	**1.2400e-003**	**1.0000e-005**	**1.2500e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0592**	**1.0592**	**5.0000e-005**	**0.0000**	**1.0603**

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	0.0213	0.1743	0.1144	1.8000e-004		0.0108	0.0108		0.0103	0.0103	0.0000	16.0602	16.0602	3.4800e-003	0.0000	16.1332
Total	**0.0213**	**0.1743**	**0.1144**	**1.8000e-004**		**0.0108**	**0.0108**		**0.0103**	**0.0103**	**0.0000**	**16.0602**	**16.0602**	**3.4800e-003**	**0.0000**	**16.1332**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	5.7000e-004	5.6600e-003	1.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0592	1.0592	5.0000e-005	0.0000	1.0603
Total	**3.8000e-004**	**5.7000e-004**	**5.6600e-003**	**1.0000e-005**	**1.2400e-003**	**1.0000e-005**	**1.2500e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0592**	**1.0592**	**5.0000e-005**	**0.0000**	**1.0603**

4875.0001 Recology BVON - Year 2 (2017)

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	6.50	User Defined Unit	6.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 2 (2017): 6.5 acres of Cure Area

Land Use - Year 2 (2017): 6.5 acres of Cure Area

Construction Phase - Year 2 (2017)

Energy Use -

Construction Off-road Equipment Mitigation -

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Off-road Equipment - Estimated construction equipment for Construction of Equipment Wash

Off-road Equipment - Similar equipment used to represent expected equipment

Off-road Equipment - Expected construction equipment

Trips and VMT - Additional worker and vendor trips were added to the Construction of Equipment Wash phase.
1,343 hauling trips added to account for concrete and aggregate base to be delivered in 2017.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	230.00	20.00
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	6.50
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,343.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	2.4449	25.8661	18.6418	0.0251	6.2527	1.2806	7.5333	3.3552	1.1781	4.5333	0.0000	2,527.4677	2,527.4677	0.7409	0.0000	2,543.0255
Total	**2.4449**	**25.8661**	**18.6418**	**0.0251**	**6.2527**	**1.2806**	**7.5333**	**3.3552**	**1.1781**	**4.5333**	**0.0000**	**2,527.4677**	**2,527.4677**	**0.7409**	**0.0000**	**2,543.0255**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	2.4449	25.8661	18.6418	0.0251	2.8840	1.2806	4.1645	1.5285	1.1781	2.7066	0.0000	2,527.4677	2,527.4677	0.7409	0.0000	2,543.0255
Total	**2.4449**	**25.8661**	**18.6418**	**0.0251**	**2.8840**	**1.2806**	**4.1645**	**1.5285**	**1.1781**	**2.7066**	**0.0000**	**2,527.4677**	**2,527.4677**	**0.7409**	**0.0000**	**2,543.0255**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.88**	**0.00**	**44.72**	**54.44**	**0.00**	**40.30**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2017	4/4/2017	5	67	
2	Paving	Paving	4/5/2017	7/6/2017	5	67	
3	Construction of Equipment Wash	Building Construction	7/7/2017	8/3/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Construction of Equipment Wash	Cranes	1	7.00	226	0.29

Construction of Equipment Wash	Forklifts	1	8.00	89	0.20
Construction of Equipment Wash	Generator Sets	1	8.00	84	0.74
Construction of Equipment Wash	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction of Equipment Wash	Welders	1	8.00	46	0.45
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,343.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction of Equipment Wash	5	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2017

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					6.1250	0.0000	6.1250	3.3213	0.0000	3.3213			0.0000			0.0000
Off-Road	2.4005	25.8138	17.9868	0.0235		1.2797	1.2797		1.1773	1.1773		2,399.4182	2,399.4182	0.7352		2,414.8569
Total	**2.4005**	**25.8138**	**17.9868**	**0.0235**	**6.1250**	**1.2797**	**7.4046**	**3.3213**	**1.1773**	**4.4986**		**2,399.4182**	**2,399.4182**	**0.7352**		**2,414.8569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0445	0.0524	0.6550	1.6400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		128.0495	128.0495	5.6700e-003		128.1686
Total	**0.0445**	**0.0524**	**0.6550**	**1.6400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**128.0495**	**128.0495**	**5.6700e-003**		**128.1686**

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					2.7562	0.0000	2.7562	1.4946	0.0000	1.4946			0.0000			0.0000
Off-Road	2.4005	25.8138	17.9868	0.0235		1.2797	1.2797		1.1773	1.1773	0.0000	2,399.4182	2,399.4182	0.7352		2,414.8569
Total	**2.4005**	**25.8138**	**17.9868**	**0.0235**	**2.7562**	**1.2797**	**4.0359**	**1.4946**	**1.1773**	**2.6719**	**0.0000**	**2,399.4182**	**2,399.4182**	**0.7352**		**2,414.8569**

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	0.0000	0.0000	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	0.0445	0.0524	0.6550	1.6400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		128.0495	128.0495	5.6700e-003		128.1686
Total	**0.0445**	**0.0524**	**0.6550**	**1.6400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**128.0495**	**128.0495**	**5.6700e-003**		**128.1686**

3.3 Paving - 2017

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	0.3697	3.2699	2.2992	3.3300e-003		0.2249	0.2249		0.2081	0.2081		318.6802	318.6802	0.0874		320.5158
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3697**	**3.2699**	**2.2992**	**3.3300e-003**		**0.2249**	**0.2249**		**0.2081**	**0.2081**		**318.6802**	**318.6802**	**0.0874**		**320.5158**

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	0.3369	4.4595	3.4135	0.0149	0.3510	0.0710	0.4220	0.0963	0.0653	0.1616		1,481.2313	1,481.2313	0.0106		1,481.4547
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	0.0223	0.0262	0.3275	8.2000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		64.0248	64.0248	2.8400e-003		64.0843
Total	**0.3591**	**4.4856**	**3.7410**	**0.0157**	**0.4149**	**0.0715**	**0.4863**	**0.1132**	**0.0657**	**0.1789**		**1,545.2561**	**1,545.2561**	**0.0135**		**1,545.5390**

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	0.3697	3.2699	2.2992	3.3300e-003		0.2249	0.2249		0.2081	0.2081	0.0000	318.6802	318.6802	0.0874		320.5158
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3697**	**3.2699**	**2.2992**	**3.3300e-003**		**0.2249**	**0.2249**		**0.2081**	**0.2081**	**0.0000**	**318.6802**	**318.6802**	**0.0874**		**320.5158**

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	0.3369	4.4595	3.4135	0.0149	0.3510	0.0710	0.4220	0.0963	0.0653	0.1616		1,481.2313	1,481.2313	0.0106		1,481.4547
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	0.0223	0.0262	0.3275	8.2000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		64.0248	64.0248	2.8400e-003		64.0843
Total	**0.3591**	**4.4856**	**3.7410**	**0.0157**	**0.4149**	**0.0715**	**0.4863**	**0.1132**	**0.0657**	**0.1789**		**1,545.2561**	**1,545.2561**	**0.0135**		**1,545.5390**

3.4 Construction of Equipment Wash - 2017

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	2.1261	17.4261	11.4417	0.0183		1.0793	1.0793		1.0272	1.0272		1,770.3321	1,770.3321	0.3833		1,778.3813
Total	**2.1261**	**17.4261**	**11.4417**	**0.0183**		**1.0793**	**1.0793**		**1.0272**	**1.0272**		**1,770.3321**	**1,770.3321**	**0.3833**		**1,778.3813**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0445	0.0524	0.6550	1.6400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		128.0495	128.0495	5.6700e-003		128.1686
Total	**0.0445**	**0.0524**	**0.6550**	**1.6400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**128.0495**	**128.0495**	**5.6700e-003**		**128.1686**

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	2.1261	17.4261	11.4417	0.0183		1.0793	1.0793		1.0272	1.0272	0.0000	1,770.3321	1,770.3321	0.3833		1,778.3813
Total	**2.1261**	**17.4261**	**11.4417**	**0.0183**		**1.0793**	**1.0793**		**1.0272**	**1.0272**	**0.0000**	**1,770.3321**	**1,770.3321**	**0.3833**		**1,778.3813**

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	0.0000	0.0000	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	0.0445	0.0524	0.6550	1.6400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		128.0495	128.0495	5.6700e-003		128.1686
Total	**0.0445**	**0.0524**	**0.6550**	**1.6400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**128.0495**	**128.0495**	**5.6700e-003**		**128.1686**

4875.0001 Recology BVON - Year 2 (2017)

Stanislaus County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	6.50	User Defined Unit	6.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 2 (2017): 6.5 acres of Cure Area

Land Use - Year 2 (2017): 6.5 acres of Cure Area

Construction Phase - Year 2 (2017)

Energy Use -

Construction Off-road Equipment Mitigation -

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Off-road Equipment - Estimated construction equipment for Construction of Equipment Wash

Off-road Equipment - Similar equipment used to represent expected equipment

Off-road Equipment - Expected construction equipment

Trips and VMT - Additional worker and vendor trips were added to the Construction of Equipment Wash phase.
1,343 hauling trips added to account for concrete and aggregate base to be delivered in 2017.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	230.00	20.00
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	6.50
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,343.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	2.4392	25.8764	18.5477	0.0249	6.2527	1.2806	7.5333	3.3552	1.1781	4.5333	0.0000	2,512.2528	2,512.2528	0.7409	0.0000	2,527.8106
Total	**2.4392**	**25.8764**	**18.5477**	**0.0249**	**6.2527**	**1.2806**	**7.5333**	**3.3552**	**1.1781**	**4.5333**	**0.0000**	**2,512.2528**	**2,512.2528**	**0.7409**	**0.0000**	**2,527.8106**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	2.4392	25.8764	18.5477	0.0249	2.8840	1.2806	4.1645	1.5285	1.1781	2.7066	0.0000	2,512.2528	2,512.2528	0.7409	0.0000	2,527.8106
Total	**2.4392**	**25.8764**	**18.5477**	**0.0249**	**2.8840**	**1.2806**	**4.1645**	**1.5285**	**1.1781**	**2.7066**	**0.0000**	**2,512.2528**	**2,512.2528**	**0.7409**	**0.0000**	**2,527.8106**
	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.88**	**0.00**	**44.72**	**54.44**	**0.00**	**40.30**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2017	4/4/2017	5	67	
2	Paving	Paving	4/5/2017	7/6/2017	5	67	
3	Construction of Equipment Wash	Building Construction	7/7/2017	8/3/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Construction of Equipment Wash	Cranes	1	7.00	226	0.29
Construction of Equipment Wash	Forklifts	1	8.00	89	0.20
Construction of Equipment Wash	Generator Sets	1	8.00	84	0.74
Construction of Equipment Wash	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction of Equipment Wash	Welders	1	8.00	46	0.45
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,343.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Construction of Equipment Wash	5	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2017

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					6.1250	0.0000	6.1250	3.3213	0.0000	3.3213			0.0000			0.0000
Off-Road	2.4005	25.8138	17.9868	0.0235		1.2797	1.2797		1.1773	1.1773		2,399.4182	2,399.4182	0.7352		2,414.8569
Total	**2.4005**	**25.8138**	**17.9868**	**0.0235**	**6.1250**	**1.2797**	**7.4046**	**3.3213**	**1.1773**	**4.4986**		**2,399.4182**	**2,399.4182**	**0.7352**		**2,414.8569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0387	0.0626	0.5609	1.4400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		112.8346	112.8346	5.6700e-003		112.9537
Total	**0.0387**	**0.0626**	**0.5609**	**1.4400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**112.8346**	**112.8346**	**5.6700e-003**		**112.9537**

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					2.7562	0.0000	2.7562	1.4946	0.0000	1.4946			0.0000			0.0000
Off-Road	2.4005	25.8138	17.9868	0.0235		1.2797	1.2797		1.1773	1.1773	0.0000	2,399.4182	2,399.4182	0.7352		2,414.8569
Total	**2.4005**	**25.8138**	**17.9868**	**0.0235**	**2.7562**	**1.2797**	**4.0359**	**1.4946**	**1.1773**	**2.6719**	**0.0000**	**2,399.4182**	**2,399.4182**	**0.7352**		**2,414.8569**

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	0.0000	0.0000	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	0.0387	0.0626	0.5609	1.4400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		112.8346	112.8346	5.6700e-003		112.9537
Total	**0.0387**	**0.0626**	**0.5609**	**1.4400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**112.8346**	**112.8346**	**5.6700e-003**		**112.9537**

3.3 Paving - 2017

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	0.3697	3.2699	2.2992	3.3300e-003		0.2249	0.2249		0.2081	0.2081		318.6802	318.6802	0.0874		320.5158
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3697**	**3.2699**	**2.2992**	**3.3300e-003**		**0.2249**	**0.2249**		**0.2081**	**0.2081**		**318.6802**	**318.6802**	**0.0874**		**320.5158**

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	0.3828	4.7462	5.2886	0.0149	0.3510	0.0712	0.4222	0.0963	0.0655	0.1618		1,477.7452	1,477.7452	0.0108		1,477.9717
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	0.0194	0.0313	0.2805	7.2000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		56.4173	56.4173	2.8400e-003		56.4768
Total	**0.4022**	**4.7775**	**5.5691**	**0.0156**	**0.4149**	**0.0717**	**0.4865**	**0.1132**	**0.0659**	**0.1791**		**1,534.1625**	**1,534.1625**	**0.0136**		**1,534.4486**

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	0.3697	3.2699	2.2992	3.3300e-003		0.2249	0.2249		0.2081	0.2081	0.0000	318.6802	318.6802	0.0874		320.5158
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3697**	**3.2699**	**2.2992**	**3.3300e-003**		**0.2249**	**0.2249**		**0.2081**	**0.2081**	**0.0000**	**318.6802**	**318.6802**	**0.0874**		**320.5158**

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	0.3828	4.7462	5.2886	0.0149	0.3510	0.0712	0.4222	0.0963	0.0655	0.1618		1,477.7452	1,477.7452	0.0108		1,477.9717
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	0.0194	0.0313	0.2805	7.2000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		56.4173	56.4173	2.8400e-003		56.4768
Total	**0.4022**	**4.7775**	**5.5691**	**0.0156**	**0.4149**	**0.0717**	**0.4865**	**0.1132**	**0.0659**	**0.1791**		**1,534.1625**	**1,534.1625**	**0.0136**		**1,534.4486**

3.4 Construction of Equipment Wash - 2017

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	2.1261	17.4261	11.4417	0.0183		1.0793	1.0793		1.0272	1.0272		1,770.3321	1,770.3321	0.3833		1,778.3813
Total	**2.1261**	**17.4261**	**11.4417**	**0.0183**		**1.0793**	**1.0793**		**1.0272**	**1.0272**		**1,770.3321**	**1,770.3321**	**0.3833**		**1,778.3813**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0387	0.0626	0.5609	1.4400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		112.8346	112.8346	5.6700e-003		112.9537
Total	**0.0387**	**0.0626**	**0.5609**	**1.4400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**112.8346**	**112.8346**	**5.6700e-003**		**112.9537**

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	2.1261	17.4261	11.4417	0.0183		1.0793	1.0793		1.0272	1.0272	0.0000	1,770.3321	1,770.3321	0.3833		1,778.3813
Total	**2.1261**	**17.4261**	**11.4417**	**0.0183**		**1.0793**	**1.0793**		**1.0272**	**1.0272**	**0.0000**	**1,770.3321**	**1,770.3321**	**0.3833**		**1,778.3813**

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	0.0000	0.0000	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	0.0387	0.0626	0.5609	1.4400e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		112.8346	112.8346	5.6700e-003		112.9537
Total	**0.0387**	**0.0626**	**0.5609**	**1.4400e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**112.8346**	**112.8346**	**5.6700e-003**		**112.9537**

4875.0001 Recology BVON - Year 3 (2018)

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	6.00	User Defined Unit	6.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 3 (2018): 6 acres of Cure Area

Land Use - Year 3 (2018): 6 acres of Cure Area

Construction Phase - Year 3 (2018)

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Trips and VMT - Added 1,240 hauling trips to account for concrete and aggregate base to be delivered in 2018

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	62.00
tblConstructionPhase	NumDays	20.00	62.00
tblConstructionPhase	PhaseEndDate	6/21/2018	6/19/2018
tblConstructionPhase	PhaseStartDate	3/28/2018	3/24/2018
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	6.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,240.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0967	1.0207	0.8060	1.5800e-003	0.2065	0.0447	0.2512	0.1074	0.0411	0.1486	0.0000	140.8227	140.8227	0.0299	0.0000	141.4500
Total	**0.0967**	**1.0207**	**0.8060**	**1.5800e-003**	**0.2065**	**0.0447**	**0.2512**	**0.1074**	**0.0411**	**0.1486**	**0.0000**	**140.8227**	**140.8227**	**0.0299**	**0.0000**	**141.4500**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0967	1.0207	0.8060	1.5800e-003	0.1019	0.0447	0.1466	0.0508	0.0411	0.0919	0.0000	140.8226	140.8226	0.0299	0.0000	141.4499
Total	**0.0967**	**1.0207**	**0.8060**	**1.5800e-003**	**0.1019**	**0.0447**	**0.1466**	**0.0508**	**0.0411**	**0.0919**	**0.0000**	**140.8226**	**140.8226**	**0.0299**	**0.0000**	**141.4499**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**50.64**	**0.00**	**41.63**	**52.73**	**0.00**	**38.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2018	3/27/2018	5	62	
2	Paving	Paving	3/24/2018	6/19/2018	5	62	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Grading	Off-Highway Trucks	1	8.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,240.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 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					0.1901	0.0000	0.1901	0.1030	0.0000	0.1030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0748	0.8006	0.5847	9.5000e-004		0.0367	0.0367		0.0338	0.0338	0.0000	86.3749	86.3749	0.0269	0.0000	86.9395
Total	**0.0748**	**0.8006**	**0.5847**	**9.5000e-004**	**0.1901**	**0.0367**	**0.2268**	**0.1030**	**0.0338**	**0.1368**	**0.0000**	**86.3749**	**86.3749**	**0.0269**	**0.0000**	**86.9395**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	1.6000e-003	0.0157	5.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.2015	3.2015	1.5000e-004	0.0000	3.2047
Total	**1.0400e-003**	**1.6000e-003**	**0.0157**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.2015**	**3.2015**	**1.5000e-004**	**0.0000**	**3.2047**

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					0.0856	0.0000	0.0856	0.0464	0.0000	0.0464	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0748	0.8006	0.5846	9.5000e-004		0.0367	0.0367		0.0338	0.0338	0.0000	86.3748	86.3748	0.0269	0.0000	86.9394
Total	**0.0748**	**0.8006**	**0.5846**	**9.5000e-004**	**0.0856**	**0.0367**	**0.1223**	**0.0464**	**0.0338**	**0.0801**	**0.0000**	**86.3748**	**86.3748**	**0.0269**	**0.0000**	**86.9394**

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	0.0000	0.0000	0.0000	0.0000	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	1.0400e-003	1.6000e-003	0.0157	5.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.2015	3.2015	1.5000e-004	0.0000	3.2047
Total	**1.0400e-003**	**1.6000e-003**	**0.0157**	**5.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.2015**	**3.2015**	**1.5000e-004**	**0.0000**	**3.2047**

3.3 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	9.8200e-003	0.0887	0.0696	1.0000e-004		5.7700e-003	5.7700e-003		5.3400e-003	5.3400e-003	0.0000	8.8424	8.8424	2.4600e-003	0.0000	8.8940
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8200e-003**	**0.0887**	**0.0696**	**1.0000e-004**		**5.7700e-003**	**5.7700e-003**		**5.3400e-003**	**5.3400e-003**	**0.0000**	**8.8424**	**8.8424**	**2.4600e-003**	**0.0000**	**8.8940**

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	0.0106	0.1290	0.1282	4.6000e-004	0.0106	2.1600e-003	0.0128	2.9100e-003	1.9900e-003	4.9000e-003	0.0000	40.8031	40.8031	3.0000e-004	0.0000	40.8094
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-004	8.0000e-004	7.8700e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6008	1.6008	8.0000e-005	0.0000	1.6024
Total	**0.0111**	**0.1298**	**0.1360**	**4.8000e-004**	**0.0125**	**2.1700e-003**	**0.0147**	**3.4200e-003**	**2.0000e-003**	**5.4200e-003**	**0.0000**	**42.4039**	**42.4039**	**3.8000e-004**	**0.0000**	**42.4117**

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	9.8200e-003	0.0887	0.0696	1.0000e-004		5.7700e-003	5.7700e-003		5.3400e-003	5.3400e-003	0.0000	8.8424	8.8424	2.4600e-003	0.0000	8.8940
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8200e-003**	**0.0887**	**0.0696**	**1.0000e-004**		**5.7700e-003**	**5.7700e-003**		**5.3400e-003**	**5.3400e-003**	**0.0000**	**8.8424**	**8.8424**	**2.4600e-003**	**0.0000**	**8.8940**

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	0.0106	0.1290	0.1282	4.6000e-004	0.0106	2.1600e-003	0.0128	2.9100e-003	1.9900e-003	4.9000e-003	0.0000	40.8031	40.8031	3.0000e-004	0.0000	40.8094
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-004	8.0000e-004	7.8700e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6008	1.6008	8.0000e-005	0.0000	1.6024
Total	**0.0111**	**0.1298**	**0.1360**	**4.8000e-004**	**0.0125**	**2.1700e-003**	**0.0147**	**3.4200e-003**	**2.0000e-003**	**5.4200e-003**	**0.0000**	**42.4039**	**42.4039**	**3.8000e-004**	**0.0000**	**42.4117**

4875.0001 Recology BVON - Year 3 (2018)

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	6.00	User Defined Unit	6.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 3 (2018): 6 acres of Cure Area

Land Use - Year 3 (2018): 6 acres of Cure Area

Construction Phase - Year 3 (2018)

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Trips and VMT - Added 1,240 hauling trips to account for concrete and aggregate base to be delivered in 2018

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	62.00
tblConstructionPhase	NumDays	20.00	62.00
tblConstructionPhase	PhaseEndDate	6/21/2018	6/19/2018
tblConstructionPhase	PhaseStartDate	3/28/2018	3/24/2018
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	6.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,240.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.1120	32.7350	25.2746	0.0512	6.6751	1.4412	8.1163	3.4691	1.3271	4.7962	0.0000	5,025.3952	5,025.3952	1.0621	0.0000	5,047.6998
Total	**3.1120**	**32.7350**	**25.2746**	**0.0512**	**6.6751**	**1.4412**	**8.1163**	**3.4691**	**1.3271**	**4.7962**	**0.0000**	**5,025.3952**	**5,025.3952**	**1.0621**	**0.0000**	**5,047.6998**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.1120	32.7350	25.2746	0.0512	3.3018	1.4412	4.7430	1.6419	1.3271	2.9689	0.0000	5,025.3952	5,025.3952	1.0621	0.0000	5,047.6998
Total	**3.1120**	**32.7350**	**25.2746**	**0.0512**	**3.3018**	**1.4412**	**4.7430**	**1.6419**	**1.3271**	**2.9689**	**0.0000**	**5,025.3952**	**5,025.3952**	**1.0621**	**0.0000**	**5,047.6998**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**50.54**	**0.00**	**41.56**	**52.67**	**0.00**	**38.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2018	3/27/2018	5	62	
2	Paving	Paving	3/24/2018	6/19/2018	5	62	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Grading	Off-Highway Trucks	1	8.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,240.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 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					6.1333	0.0000	6.1333	3.3222	0.0000	3.3222			0.0000			0.0000
Off-Road	2.4118	25.8256	18.8595	0.0305		1.1842	1.1842		1.0894	1.0894		3,071.3543	3,071.3543	0.9562		3,091.4335
Total	**2.4118**	**25.8256**	**18.8595**	**0.0305**	**6.1333**	**1.1842**	**7.3174**	**3.3222**	**1.0894**	**4.4117**		**3,071.3543**	**3,071.3543**	**0.9562**		**3,091.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0398	0.0472	0.5904	1.6600e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		124.8584	124.8584	5.3400e-003		124.9706
Total	**0.0398**	**0.0472**	**0.5904**	**1.6600e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**124.8584**	**124.8584**	**5.3400e-003**		**124.9706**

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					2.7600	0.0000	2.7600	1.4950	0.0000	1.4950			0.0000			0.0000
Off-Road	2.4118	25.8256	18.8595	0.0305		1.1842	1.1842		1.0894	1.0894	0.0000	3,071.3543	3,071.3543	0.9562		3,091.4335
Total	**2.4118**	**25.8256**	**18.8595**	**0.0305**	**2.7600**	**1.1842**	**3.9441**	**1.4950**	**1.0894**	**2.5844**	**0.0000**	**3,071.3543**	**3,071.3543**	**0.9562**		**3,091.4335**

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	0.0000	0.0000	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	0.0398	0.0472	0.5904	1.6600e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		124.8584	124.8584	5.3400e-003		124.9706
Total	**0.0398**	**0.0472**	**0.5904**	**1.6600e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**124.8584**	**124.8584**	**5.3400e-003**		**124.9706**

3.3 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	0.3167	2.8616	2.2438	3.3300e-003		0.1861	0.1861		0.1724	0.1724		314.4227	314.4227	0.0874		316.2581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3167**	**2.8616**	**2.2438**	**3.3300e-003**		**0.1861**	**0.1861**		**0.1724**	**0.1724**		**314.4227**	**314.4227**	**0.0874**		**316.2581**

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	0.3239	3.9770	3.2856	0.0149	0.3502	0.0696	0.4198	0.0961	0.0640	0.1601		1,452.3307	1,452.3307	0.0106		1,452.5522
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	0.0199	0.0236	0.2952	8.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		62.4292	62.4292	2.6700e-003		62.4853
Total	**0.3437**	**4.0006**	**3.5808**	**0.0157**	**0.4141**	**0.0700**	**0.4841**	**0.1130**	**0.0644**	**0.1774**		**1,514.7599**	**1,514.7599**	**0.0132**		**1,515.0375**

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	0.3167	2.8616	2.2438	3.3300e-003		0.1861	0.1861		0.1724	0.1724	0.0000	314.4227	314.4227	0.0874		316.2581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3167**	**2.8616**	**2.2438**	**3.3300e-003**		**0.1861**	**0.1861**		**0.1724**	**0.1724**	**0.0000**	**314.4227**	**314.4227**	**0.0874**		**316.2581**

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	0.3239	3.9770	3.2856	0.0149	0.3502	0.0696	0.4198	0.0961	0.0640	0.1601		1,452.3307	1,452.3307	0.0106		1,452.5522
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	0.0199	0.0236	0.2952	8.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		62.4292	62.4292	2.6700e-003		62.4853
Total	**0.3437**	**4.0006**	**3.5808**	**0.0157**	**0.4141**	**0.0700**	**0.4841**	**0.1130**	**0.0644**	**0.1774**		**1,514.7599**	**1,514.7599**	**0.0132**		**1,515.0375**

4875.0001 Recology BVON - Year 3 (2018)

Stanislaus County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	6.00	User Defined Unit	6.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 3 (2018): 6 acres of Cure Area

Land Use - Year 3 (2018): 6 acres of Cure Area

Construction Phase - Year 3 (2018)

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Trips and VMT - Added 1,240 hauling trips to account for concrete and aggregate base to be delivered in 2018

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	62.00
tblConstructionPhase	NumDays	20.00	62.00
tblConstructionPhase	PhaseEndDate	6/21/2018	6/19/2018
tblConstructionPhase	PhaseStartDate	3/28/2018	3/24/2018
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	6.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,240.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.1445	33.0041	26.9766	0.0509	6.6751	1.4414	8.1165	3.4691	1.3273	4.7963	0.0000	4,999.7061	4,999.7061	1.0623	0.0000	5,022.0140
Total	**3.1445**	**33.0041**	**26.9766**	**0.0509**	**6.6751**	**1.4414**	**8.1165**	**3.4691**	**1.3273**	**4.7963**	**0.0000**	**4,999.7061**	**4,999.7061**	**1.0623**	**0.0000**	**5,022.0140**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.1445	33.0041	26.9766	0.0509	3.3018	1.4414	4.7432	1.6419	1.3273	2.9691	0.0000	4,999.7061	4,999.7061	1.0623	0.0000	5,022.0140
Total	**3.1445**	**33.0041**	**26.9766**	**0.0509**	**3.3018**	**1.4414**	**4.7432**	**1.6419**	**1.3273**	**2.9691**	**0.0000**	**4,999.7061**	**4,999.7061**	**1.0623**	**0.0000**	**5,022.0140**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**50.54**	**0.00**	**41.56**	**52.67**	**0.00**	**38.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2018	3/27/2018	5	62	
2	Paving	Paving	3/24/2018	6/19/2018	5	62	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Grading	Off-Highway Trucks	1	8.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,240.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 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					6.1333	0.0000	6.1333	3.3222	0.0000	3.3222			0.0000			0.0000
Off-Road	2.4118	25.8256	18.8595	0.0305		1.1842	1.1842		1.0894	1.0894		3,071.3543	3,071.3543	0.9562		3,091.4335
Total	**2.4118**	**25.8256**	**18.8595**	**0.0305**	**6.1333**	**1.1842**	**7.3174**	**3.3222**	**1.0894**	**4.4117**		**3,071.3543**	**3,071.3543**	**0.9562**		**3,091.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0342	0.0564	0.5006	1.4600e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		110.0138	110.0138	5.3400e-003		110.1260
Total	**0.0342**	**0.0564**	**0.5006**	**1.4600e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**110.0138**	**110.0138**	**5.3400e-003**		**110.1260**

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					2.7600	0.0000	2.7600	1.4950	0.0000	1.4950			0.0000			0.0000
Off-Road	2.4118	25.8256	18.8595	0.0305		1.1842	1.1842		1.0894	1.0894	0.0000	3,071.3543	3,071.3543	0.9562		3,091.4335
Total	**2.4118**	**25.8256**	**18.8595**	**0.0305**	**2.7600**	**1.1842**	**3.9441**	**1.4950**	**1.0894**	**2.5844**	**0.0000**	**3,071.3543**	**3,071.3543**	**0.9562**		**3,091.4335**

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	0.0000	0.0000	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	0.0342	0.0564	0.5006	1.4600e-003	0.1277	9.1000e-004	0.1286	0.0339	8.4000e-004	0.0347		110.0138	110.0138	5.3400e-003		110.1260
Total	**0.0342**	**0.0564**	**0.5006**	**1.4600e-003**	**0.1277**	**9.1000e-004**	**0.1286**	**0.0339**	**8.4000e-004**	**0.0347**		**110.0138**	**110.0138**	**5.3400e-003**		**110.1260**

3.3 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	0.3167	2.8616	2.2438	3.3300e-003		0.1861	0.1861		0.1724	0.1724		314.4227	314.4227	0.0874		316.2581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3167**	**2.8616**	**2.2438**	**3.3300e-003**		**0.1861**	**0.1861**		**0.1724**	**0.1724**		**314.4227**	**314.4227**	**0.0874**		**316.2581**

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	0.3647	4.2322	5.1224	0.0149	0.3502	0.0698	0.4200	0.0961	0.0642	0.1602		1,448.9086	1,448.9086	0.0107		1,449.1334
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	0.0171	0.0282	0.2503	7.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		55.0069	55.0069	2.6700e-003		55.0630
Total	**0.3818**	**4.2604**	**5.3727**	**0.0156**	**0.4141**	**0.0702**	**0.4843**	**0.1130**	**0.0646**	**0.1776**		**1,503.9155**	**1,503.9155**	**0.0134**		**1,504.1964**

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	0.3167	2.8616	2.2438	3.3300e-003		0.1861	0.1861		0.1724	0.1724	0.0000	314.4227	314.4227	0.0874		316.2581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3167**	**2.8616**	**2.2438**	**3.3300e-003**		**0.1861**	**0.1861**		**0.1724**	**0.1724**	**0.0000**	**314.4227**	**314.4227**	**0.0874**		**316.2581**

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	0.3647	4.2322	5.1224	0.0149	0.3502	0.0698	0.4200	0.0961	0.0642	0.1602		1,448.9086	1,448.9086	0.0107		1,449.1334
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	0.0171	0.0282	0.2503	7.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		55.0069	55.0069	2.6700e-003		55.0630
Total	**0.3818**	**4.2604**	**5.3727**	**0.0156**	**0.4141**	**0.0702**	**0.4843**	**0.1130**	**0.0646**	**0.1776**		**1,503.9155**	**1,503.9155**	**0.0134**		**1,504.1964**

4875.0001 Recology BVON - Year 4 (2019)

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	7.30	User Defined Unit	7.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 4 (2019): 7.3 acres of Active Area

Land Use - Year 4 (2019): 7.3 acres of Active Area

Construction Phase - Year 4 (2019)

Off-road Equipment - Expected construction equipment

Trips and VMT - Added 1,509 hauling trips to account for concrete and aggregate base to be delivered in 2019

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Similar equipment used to represent expected equipment

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	75.00
tblConstructionPhase	NumDays	20.00	75.00
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	7.30
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,509.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0969	0.9906	0.8636	1.6500e-003	0.2492	0.0443	0.2934	0.1299	0.0408	0.1707	0.0000	143.9559	143.9559	0.0286	0.0000	144.5561
Total	**0.0969**	**0.9906**	**0.8636**	**1.6500e-003**	**0.2492**	**0.0443**	**0.2934**	**0.1299**	**0.0408**	**0.1707**	**0.0000**	**143.9559**	**143.9559**	**0.0286**	**0.0000**	**144.5561**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0969	0.9906	0.8636	1.6500e-003	0.1231	0.0443	0.1673	0.0614	0.0408	0.1022	0.0000	143.9558	143.9558	0.0286	0.0000	144.5560
Total	**0.0969**	**0.9906**	**0.8636**	**1.6500e-003**	**0.1231**	**0.0443**	**0.1673**	**0.0614**	**0.0408**	**0.1022**	**0.0000**	**143.9558**	**143.9558**	**0.0286**	**0.0000**	**144.5560**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**50.61**	**0.00**	**42.98**	**52.71**	**0.00**	**40.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	4/15/2019	5	75	
2	Paving	Paving	4/16/2019	7/29/2019	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Off-Highway Trucks	1	8.00	189	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,509.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2019

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					0.2293	0.0000	0.2293	0.1245	0.0000	0.1245	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0719	0.7470	0.6012	8.8000e-004		0.0356	0.0356		0.0327	0.0327	0.0000	78.9937	78.9937	0.0250	0.0000	79.5186
Total	**0.0719**	**0.7470**	**0.6012**	**8.8000e-004**	**0.2293**	**0.0356**	**0.2648**	**0.1245**	**0.0327**	**0.1572**	**0.0000**	**78.9937**	**78.9937**	**0.0250**	**0.0000**	**79.5186**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1400e-003	1.7600e-003	0.0173	6.0000e-005	4.6600e-003	3.0000e-005	4.6900e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.7358	3.7358	1.7000e-004	0.0000	3.7394
Total	**1.1400e-003**	**1.7600e-003**	**0.0173**	**6.0000e-005**	**4.6600e-003**	**3.0000e-005**	**4.6900e-003**	**1.2400e-003**	**3.0000e-005**	**1.2700e-003**	**0.0000**	**3.7358**	**3.7358**	**1.7000e-004**	**0.0000**	**3.7394**

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					0.1032	0.0000	0.1032	0.0560	0.0000	0.0560	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0719	0.7470	0.6012	8.8000e-004		0.0356	0.0356		0.0327	0.0327	0.0000	78.9937	78.9937	0.0250	0.0000	79.5185
Total	**0.0719**	**0.7470**	**0.6012**	**8.8000e-004**	**0.1032**	**0.0356**	**0.1387**	**0.0560**	**0.0327**	**0.0887**	**0.0000**	**78.9937**	**78.9937**	**0.0250**	**0.0000**	**79.5185**

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	0.0000	0.0000	0.0000	0.0000	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	1.1400e-003	1.7600e-003	0.0173	6.0000e-005	4.6600e-003	3.0000e-005	4.6900e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.7358	3.7358	1.7000e-004	0.0000	3.7394
Total	**1.1400e-003**	**1.7600e-003**	**0.0173**	**6.0000e-005**	**4.6600e-003**	**3.0000e-005**	**4.6900e-003**	**1.2400e-003**	**3.0000e-005**	**1.2700e-003**	**0.0000**	**3.7358**	**3.7358**	**1.7000e-004**	**0.0000**	**3.7394**

3.3 Paving - 2019

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	0.0107	0.0978	0.0831	1.2000e-004		6.0600e-003	6.0600e-003		5.6200e-003	5.6200e-003	0.0000	10.5528	10.5528	2.9700e-003	0.0000	10.6153
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.0978**	**0.0831**	**1.2000e-004**		**6.0600e-003**	**6.0600e-003**		**5.6200e-003**	**5.6200e-003**	**0.0000**	**10.5528**	**10.5528**	**2.9700e-003**	**0.0000**	**10.6153**

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	0.0125	0.1431	0.1533	5.6000e-004	0.0129	2.5800e-003	0.0155	3.5500e-003	2.3700e-003	5.9200e-003	0.0000	48.8056	48.8056	3.6000e-004	0.0000	48.8131
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	5.7000e-004	8.8000e-004	8.6700e-003	3.0000e-005	2.3300e-003	2.0000e-005	2.3500e-003	6.2000e-004	2.0000e-005	6.3000e-004	0.0000	1.8679	1.8679	8.0000e-005	0.0000	1.8697
Total	**0.0131**	**0.1440**	**0.1620**	**5.9000e-004**	**0.0152**	**2.6000e-003**	**0.0178**	**4.1700e-003**	**2.3900e-003**	**6.5500e-003**	**0.0000**	**50.6735**	**50.6735**	**4.4000e-004**	**0.0000**	**50.6828**

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	0.0107	0.0978	0.0831	1.2000e-004		6.0600e-003	6.0600e-003		5.6200e-003	5.6200e-003	0.0000	10.5528	10.5528	2.9700e-003	0.0000	10.6153
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.0978**	**0.0831**	**1.2000e-004**		**6.0600e-003**	**6.0600e-003**		**5.6200e-003**	**5.6200e-003**	**0.0000**	**10.5528**	**10.5528**	**2.9700e-003**	**0.0000**	**10.6153**

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	0.0125	0.1431	0.1533	5.6000e-004	0.0129	2.5800e-003	0.0155	3.5500e-003	2.3700e-003	5.9200e-003	0.0000	48.8056	48.8056	3.6000e-004	0.0000	48.8131
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	5.7000e-004	8.8000e-004	8.6700e-003	3.0000e-005	2.3300e-003	2.0000e-005	2.3500e-003	6.2000e-004	2.0000e-005	6.3000e-004	0.0000	1.8679	1.8679	8.0000e-005	0.0000	1.8697
Total	**0.0131**	**0.1440**	**0.1620**	**5.9000e-004**	**0.0152**	**2.6000e-003**	**0.0178**	**4.1700e-003**	**2.3900e-003**	**6.5500e-003**	**0.0000**	**50.6735**	**50.6735**	**4.4000e-004**	**0.0000**	**50.6828**

4875.0001 Recology BVON - Year 4 (2019)

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	7.30	User Defined Unit	7.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 4 (2019): 7.3 acres of Active Area

Land Use - Year 4 (2019): 7.3 acres of Active Area

Construction Phase - Year 4 (2019)

Off-road Equipment - Expected construction equipment

Trips and VMT - Added 1,509 hauling trips to account for concrete and aggregate base to be delivered in 2019

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Similar equipment used to represent expected equipment

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	75.00
tblConstructionPhase	NumDays	20.00	75.00
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	7.30
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,509.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.9544	19.9627	16.5709	0.0251	6.2417	0.9490	7.1907	3.3540	0.8731	4.2271	0.0000	2,442.4650	2,442.4650	0.7397	0.0000	2,457.9978
Total	**1.9544**	**19.9627**	**16.5709**	**0.0251**	**6.2417**	**0.9490**	**7.1907**	**3.3540**	**0.8731**	**4.2271**	**0.0000**	**2,442.4650**	**2,442.4650**	**0.7397**	**0.0000**	**2,457.9978**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.9544	19.9627	16.5709	0.0251	2.8790	0.9490	3.8280	1.5279	0.8731	2.4010	0.0000	2,442.4650	2,442.4650	0.7397	0.0000	2,457.9978
Total	**1.9544**	**19.9627**	**16.5709**	**0.0251**	**2.8790**	**0.9490**	**3.8280**	**1.5279**	**0.8731**	**2.4010**	**0.0000**	**2,442.4650**	**2,442.4650**	**0.7397**	**0.0000**	**2,457.9978**
	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.87**	**0.00**	**46.76**	**54.44**	**0.00**	**43.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	4/15/2019	5	75	
2	Paving	Paving	4/16/2019	7/29/2019	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Off-Highway Trucks	1	8.00	189	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,509.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2019

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					6.1140	0.0000	6.1140	3.3202	0.0000	3.3202			0.0000			0.0000
Off-Road	1.9182	19.9197	16.0316	0.0234		0.9481	0.9481		0.8723	0.8723		2,322.0185	2,322.0185	0.7347		2,337.4464
Total	**1.9182**	**19.9197**	**16.0316**	**0.0234**	**6.1140**	**0.9481**	**7.0621**	**3.3202**	**0.8723**	**4.1924**		**2,322.0185**	**2,322.0185**	**0.7347**		**2,337.4464**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0431	0.5394	1.6600e-003	0.1277	9.0000e-004	0.1286	0.0339	8.3000e-004	0.0347		120.4465	120.4465	4.9900e-003		120.5513
Total	**0.0362**	**0.0431**	**0.5394**	**1.6600e-003**	**0.1277**	**9.0000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**120.4465**	**120.4465**	**4.9900e-003**		**120.5513**

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					2.7513	0.0000	2.7513	1.4941	0.0000	1.4941			0.0000			0.0000
Off-Road	1.9182	19.9197	16.0316	0.0234		0.9481	0.9481		0.8723	0.8723	0.0000	2,322.0185	2,322.0185	0.7347		2,337.4464
Total	**1.9182**	**19.9197**	**16.0316**	**0.0234**	**2.7513**	**0.9481**	**3.6994**	**1.4941**	**0.8723**	**2.3663**	**0.0000**	**2,322.0185**	**2,322.0185**	**0.7347**		**2,337.4464**

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	0.0000	0.0000	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	0.0362	0.0431	0.5394	1.6600e-003	0.1277	9.0000e-004	0.1286	0.0339	8.3000e-004	0.0347		120.4465	120.4465	4.9900e-003		120.5513
Total	**0.0362**	**0.0431**	**0.5394**	**1.6600e-003**	**0.1277**	**9.0000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**120.4465**	**120.4465**	**4.9900e-003**		**120.5513**

3.3 Paving - 2019

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	0.2853	2.6091	2.2156	3.3300e-003		0.1617	0.1617		0.1499	0.1499		310.2001	310.2001	0.0874		312.0356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2853**	**2.6091**	**2.2156**	**3.3300e-003**		**0.1617**	**0.1617**		**0.1499**	**0.1499**		**310.2001**	**310.2001**	**0.0874**		**312.0356**

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	0.3181	3.6472	3.2516	0.0149	0.3524	0.0687	0.4210	0.0966	0.0632	0.1598		1,436.0609	1,436.0609	0.0105		1,436.2808
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	0.0181	0.0215	0.2697	8.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		60.2232	60.2232	2.5000e-003		60.2757
Total	**0.3362**	**3.6687**	**3.5213**	**0.0158**	**0.4162**	**0.0691**	**0.4853**	**0.1136**	**0.0636**	**0.1772**		**1,496.2841**	**1,496.2841**	**0.0130**		**1,496.5565**

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	0.2853	2.6091	2.2156	3.3300e-003		0.1617	0.1617		0.1499	0.1499	0.0000	310.2001	310.2001	0.0874		312.0356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2853**	**2.6091**	**2.2156**	**3.3300e-003**		**0.1617**	**0.1617**		**0.1499**	**0.1499**	**0.0000**	**310.2001**	**310.2001**	**0.0874**		**312.0356**

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	0.3181	3.6472	3.2516	0.0149	0.3524	0.0687	0.4210	0.0966	0.0632	0.1598		1,436.0609	1,436.0609	0.0105		1,436.2808
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	0.0181	0.0215	0.2697	8.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		60.2232	60.2232	2.5000e-003		60.2757
Total	**0.3362**	**3.6687**	**3.5213**	**0.0158**	**0.4162**	**0.0691**	**0.4853**	**0.1136**	**0.0636**	**0.1772**		**1,496.2841**	**1,496.2841**	**0.0130**		**1,496.5565**

4875.0001 Recology BVON - Year 4 (2019)

Stanislaus County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	7.30	User Defined Unit	7.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 4 (2019): 7.3 acres of Active Area

Land Use - Year 4 (2019): 7.3 acres of Active Area

Construction Phase - Year 4 (2019)

Off-road Equipment - Expected construction equipment

Trips and VMT - Added 1,509 hauling trips to account for concrete and aggregate base to be delivered in 2019

Grading - 2017 - 2019: approximately 6.5 acres to be disturbed each year

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Similar equipment used to represent expected equipment

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	75.00
tblConstructionPhase	NumDays	20.00	75.00
tblGrading	AcresOfGrading	0.00	6.50
tblLandUse	LotAcreage	0.00	7.30
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,509.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.9491	19.9711	16.4856	0.0249	6.2417	0.9490	7.1907	3.3540	0.8731	4.2271	0.0000	2,428.1390	2,428.1390	0.7397	0.0000	2,443.6717
Total	**1.9491**	**19.9711**	**16.4856**	**0.0249**	**6.2417**	**0.9490**	**7.1907**	**3.3540**	**0.8731**	**4.2271**	**0.0000**	**2,428.1390**	**2,428.1390**	**0.7397**	**0.0000**	**2,443.6717**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.9491	19.9711	16.4856	0.0249	2.8790	0.9490	3.8280	1.5279	0.8731	2.4010	0.0000	2,428.1390	2,428.1390	0.7397	0.0000	2,443.6717
Total	**1.9491**	**19.9711**	**16.4856**	**0.0249**	**2.8790**	**0.9490**	**3.8280**	**1.5279**	**0.8731**	**2.4010**	**0.0000**	**2,428.1390**	**2,428.1390**	**0.7397**	**0.0000**	**2,443.6717**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.87**	**0.00**	**46.76**	**54.44**	**0.00**	**43.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2019	4/15/2019	5	75	
2	Paving	Paving	4/16/2019	7/29/2019	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Off-Highway Trucks	1	8.00	189	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,509.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2019

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					6.1140	0.0000	6.1140	3.3202	0.0000	3.3202			0.0000			0.0000
Off-Road	1.9182	19.9197	16.0316	0.0234		0.9481	0.9481		0.8723	0.8723		2,322.0185	2,322.0185	0.7347		2,337.4464
Total	**1.9182**	**19.9197**	**16.0316**	**0.0234**	**6.1140**	**0.9481**	**7.0621**	**3.3202**	**0.8723**	**4.1924**		**2,322.0185**	**2,322.0185**	**0.7347**		**2,337.4464**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0309	0.0514	0.4541	1.4600e-003	0.1277	9.0000e-004	0.1286	0.0339	8.3000e-004	0.0347		106.1205	106.1205	4.9900e-003		106.2253
Total	**0.0309**	**0.0514**	**0.4541**	**1.4600e-003**	**0.1277**	**9.0000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**106.1205**	**106.1205**	**4.9900e-003**		**106.2253**

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					2.7513	0.0000	2.7513	1.4941	0.0000	1.4941			0.0000			0.0000
Off-Road	1.9182	19.9197	16.0316	0.0234		0.9481	0.9481		0.8723	0.8723	0.0000	2,322.0185	2,322.0185	0.7347		2,337.4464
Total	**1.9182**	**19.9197**	**16.0316**	**0.0234**	**2.7513**	**0.9481**	**3.6994**	**1.4941**	**0.8723**	**2.3663**	**0.0000**	**2,322.0185**	**2,322.0185**	**0.7347**		**2,337.4464**

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	0.0000	0.0000	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	0.0309	0.0514	0.4541	1.4600e-003	0.1277	9.0000e-004	0.1286	0.0339	8.3000e-004	0.0347		106.1205	106.1205	4.9900e-003		106.2253
Total	**0.0309**	**0.0514**	**0.4541**	**1.4600e-003**	**0.1277**	**9.0000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**106.1205**	**106.1205**	**4.9900e-003**		**106.2253**

3.3 Paving - 2019

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	0.2853	2.6091	2.2156	3.3300e-003		0.1617	0.1617		0.1499	0.1499		310.2001	310.2001	0.0874		312.0356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2853**	**2.6091**	**2.2156**	**3.3300e-003**		**0.1617**	**0.1617**		**0.1499**	**0.1499**		**310.2001**	**310.2001**	**0.0874**		**312.0356**

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	0.3569	3.8808	5.0630	0.0149	0.3524	0.0689	0.4212	0.0966	0.0634	0.1600		1,432.6742	1,432.6742	0.0106		1,432.8975
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	0.0155	0.0257	0.2270	7.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		53.0602	53.0602	2.5000e-003		53.1127
Total	**0.3724**	**3.9065**	**5.2900**	**0.0157**	**0.4162**	**0.0693**	**0.4855**	**0.1136**	**0.0638**	**0.1773**		**1,485.7344**	**1,485.7344**	**0.0131**		**1,486.0101**

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	0.2853	2.6091	2.2156	3.3300e-003		0.1617	0.1617		0.1499	0.1499	0.0000	310.2001	310.2001	0.0874		312.0356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2853**	**2.6091**	**2.2156**	**3.3300e-003**		**0.1617**	**0.1617**		**0.1499**	**0.1499**	**0.0000**	**310.2001**	**310.2001**	**0.0874**		**312.0356**

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	0.3569	3.8808	5.0630	0.0149	0.3524	0.0689	0.4212	0.0966	0.0634	0.1600		1,432.6742	1,432.6742	0.0106		1,432.8975
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	0.0155	0.0257	0.2270	7.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.2000e-004	0.0174		53.0602	53.0602	2.5000e-003		53.1127
Total	**0.3724**	**3.9065**	**5.2900**	**0.0157**	**0.4162**	**0.0693**	**0.4855**	**0.1136**	**0.0638**	**0.1773**		**1,485.7344**	**1,485.7344**	**0.0131**		**1,486.0101**

4875.0001 Recology BVON - Year 5 (2020)

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	7.30	User Defined Unit	7.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 5 (2020): 7.3 acres of Active Area

Land Use - 7.3 acres of Active Area

Construction Phase - Year 5 (2020)

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Grading - 2020 - 2021: ~6.25 acres to be disturbed each year

Trips and VMT - Added 1,509 hauling trips to account for concrete and aggregate base to be delivered in 2020

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	75.00
tblConstructionPhase	NumDays	20.00	75.00
tblGrading	AcresOfGrading	0.00	6.25
tblLandUse	LotAcreage	0.00	7.30
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,509.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0904	0.8900	0.8328	1.6500e-003	0.2490	0.0397	0.2888	0.1299	0.0366	0.1665	0.0000	140.8395	140.8395	0.0286	0.0000	141.4402
Total	**0.0904**	**0.8900**	**0.8328**	**1.6500e-003**	**0.2490**	**0.0397**	**0.2888**	**0.1299**	**0.0366**	**0.1665**	**0.0000**	**140.8395**	**140.8395**	**0.0286**	**0.0000**	**141.4402**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0904	0.8900	0.8328	1.6500e-003	0.1230	0.0397	0.1627	0.0614	0.0366	0.0980	0.0000	140.8394	140.8394	0.0286	0.0000	141.4401
Total	**0.0904**	**0.8900**	**0.8328**	**1.6500e-003**	**0.1230**	**0.0397**	**0.1627**	**0.0614**	**0.0366**	**0.0980**	**0.0000**	**140.8394**	**140.8394**	**0.0286**	**0.0000**	**141.4401**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**50.61**	**0.00**	**43.64**	**52.72**	**0.00**	**41.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2020	4/14/2020	5	75	
2	Paving	Paving	4/15/2020	7/28/2020	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.25

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,509.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

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					0.2291	0.0000	0.2291	0.1245	0.0000	0.1245	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0665	0.6719	0.5751	8.8000e-004		0.0316	0.0316		0.0291	0.0291	0.0000	77.3993	77.3993	0.0250	0.0000	77.9250
Total	**0.0665**	**0.6719**	**0.5751**	**8.8000e-004**	**0.2291**	**0.0316**	**0.2608**	**0.1245**	**0.0291**	**0.1536**	**0.0000**	**77.3993**	**77.3993**	**0.0250**	**0.0000**	**77.9250**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0600e-003	1.6200e-003	0.0160	6.0000e-005	4.6600e-003	3.0000e-005	4.6900e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.5898	3.5898	1.6000e-004	0.0000	3.5932
Total	**1.0600e-003**	**1.6200e-003**	**0.0160**	**6.0000e-005**	**4.6600e-003**	**3.0000e-005**	**4.6900e-003**	**1.2400e-003**	**3.0000e-005**	**1.2700e-003**	**0.0000**	**3.5898**	**3.5898**	**1.6000e-004**	**0.0000**	**3.5932**

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					0.1031	0.0000	0.1031	0.0560	0.0000	0.0560	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0665	0.6719	0.5751	8.8000e-004		0.0316	0.0316		0.0291	0.0291	0.0000	77.3992	77.3992	0.0250	0.0000	77.9249
Total	**0.0665**	**0.6719**	**0.5751**	**8.8000e-004**	**0.1031**	**0.0316**	**0.1347**	**0.0560**	**0.0291**	**0.0851**	**0.0000**	**77.3992**	**77.3992**	**0.0250**	**0.0000**	**77.9249**

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	0.0000	0.0000	0.0000	0.0000	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	1.0600e-003	1.6200e-003	0.0160	6.0000e-005	4.6600e-003	3.0000e-005	4.6900e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.5898	3.5898	1.6000e-004	0.0000	3.5932
Total	**1.0600e-003**	**1.6200e-003**	**0.0160**	**6.0000e-005**	**4.6600e-003**	**3.0000e-005**	**4.6900e-003**	**1.2400e-003**	**3.0000e-005**	**1.2700e-003**	**0.0000**	**3.5898**	**3.5898**	**1.6000e-004**	**0.0000**	**3.5932**

3.3 Paving - 2020

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	0.0100	0.0919	0.0826	1.3000e-004		5.5100e-003	5.5100e-003		5.1100e-003	5.1100e-003	0.0000	10.3617	10.3617	2.9700e-003	0.0000	10.4242
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0100**	**0.0919**	**0.0826**	**1.3000e-004**		**5.5100e-003**	**5.5100e-003**		**5.1100e-003**	**5.1100e-003**	**0.0000**	**10.3617**	**10.3617**	**2.9700e-003**	**0.0000**	**10.4242**

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	0.0123	0.1237	0.1510	5.6000e-004	0.0129	2.5300e-003	0.0154	3.5500e-003	2.3300e-003	5.8800e-003	0.0000	47.6938	47.6938	3.6000e-004	0.0000	47.7013
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	5.3000e-004	8.1000e-004	8.0200e-003	3.0000e-005	2.3300e-003	2.0000e-005	2.3500e-003	6.2000e-004	2.0000e-005	6.3000e-004	0.0000	1.7949	1.7949	8.0000e-005	0.0000	1.7966
Total	**0.0128**	**0.1245**	**0.1590**	**5.9000e-004**	**0.0152**	**2.5500e-003**	**0.0178**	**4.1700e-003**	**2.3500e-003**	**6.5100e-003**	**0.0000**	**49.4887**	**49.4887**	**4.4000e-004**	**0.0000**	**49.4979**

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	0.0100	0.0919	0.0826	1.3000e-004		5.5100e-003	5.5100e-003		5.1100e-003	5.1100e-003	0.0000	10.3617	10.3617	2.9700e-003	0.0000	10.4242
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0100**	**0.0919**	**0.0826**	**1.3000e-004**		**5.5100e-003**	**5.5100e-003**		**5.1100e-003**	**5.1100e-003**	**0.0000**	**10.3617**	**10.3617**	**2.9700e-003**	**0.0000**	**10.4242**

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	0.0123	0.1237	0.1510	5.6000e-004	0.0129	2.5300e-003	0.0154	3.5500e-003	2.3300e-003	5.8800e-003	0.0000	47.6938	47.6938	3.6000e-004	0.0000	47.7013
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	5.3000e-004	8.1000e-004	8.0200e-003	3.0000e-005	2.3300e-003	2.0000e-005	2.3500e-003	6.2000e-004	2.0000e-005	6.3000e-004	0.0000	1.7949	1.7949	8.0000e-005	0.0000	1.7966
Total	**0.0128**	**0.1245**	**0.1590**	**5.9000e-004**	**0.0152**	**2.5500e-003**	**0.0178**	**4.1700e-003**	**2.3500e-003**	**6.5100e-003**	**0.0000**	**49.4887**	**49.4887**	**4.4000e-004**	**0.0000**	**49.4979**

4875.0001 Recology BVON - Year 5 (2020)

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	7.30	User Defined Unit	7.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 5 (2020): 7.3 acres of Active Area

Land Use - 7.3 acres of Active Area

Construction Phase - Year 5 (2020)

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Grading - 2020 - 2021: ~6.25 acres to be disturbed each year

Trips and VMT - Added 1,509 hauling trips to account for concrete and aggregate base to be delivered in 2020

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	75.00
tblConstructionPhase	NumDays	20.00	75.00
tblGrading	AcresOfGrading	0.00	6.25
tblLandUse	LotAcreage	0.00	7.30
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,509.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.8063	17.9582	15.8372	0.0251	6.2382	0.8443	7.0825	3.3536	0.7768	4.1304	0.0000	2,390.8924	2,390.8924	0.7406	0.0000	2,406.4440
Total	**1.8063**	**17.9582**	**15.8372**	**0.0251**	**6.2382**	**0.8443**	**7.0825**	**3.3536**	**0.7768**	**4.1304**	**0.0000**	**2,390.8924**	**2,390.8924**	**0.7406**	**0.0000**	**2,406.4440**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.8063	17.9582	15.8372	0.0251	2.8774	0.8443	3.7218	1.5278	0.7768	2.3046	0.0000	2,390.8924	2,390.8924	0.7406	0.0000	2,406.4440
Total	**1.8063**	**17.9582**	**15.8372**	**0.0251**	**2.8774**	**0.8443**	**3.7218**	**1.5278**	**0.7768**	**2.3046**	**0.0000**	**2,390.8924**	**2,390.8924**	**0.7406**	**0.0000**	**2,406.4440**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.87**	**0.00**	**47.45**	**54.44**	**0.00**	**44.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2020	4/14/2020	5	75	
2	Paving	Paving	4/15/2020	7/28/2020	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.25

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,509.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

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					6.1105	0.0000	6.1105	3.3198	0.0000	3.3198			0.0000			0.0000
Off-Road	1.7728	17.9185	15.3370	0.0235		0.8434	0.8434		0.7760	0.7760		2,275.1507	2,275.1507	0.7358		2,290.6031
Total	**1.7728**	**17.9185**	**15.3370**	**0.0235**	**6.1105**	**0.8434**	**6.9539**	**3.3198**	**0.7760**	**4.0957**		**2,275.1507**	**2,275.1507**	**0.7358**		**2,290.6031**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0335	0.0398	0.5002	1.6600e-003	0.1277	8.9000e-004	0.1286	0.0339	8.3000e-004	0.0347		115.7417	115.7417	4.7200e-003		115.8409
Total	**0.0335**	**0.0398**	**0.5002**	**1.6600e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**115.7417**	**115.7417**	**4.7200e-003**		**115.8409**

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					2.7497	0.0000	2.7497	1.4939	0.0000	1.4939			0.0000			0.0000
Off-Road	1.7728	17.9185	15.3370	0.0235		0.8434	0.8434		0.7760	0.7760	0.0000	2,275.1507	2,275.1507	0.7358		2,290.6031
Total	**1.7728**	**17.9185**	**15.3370**	**0.0235**	**2.7497**	**0.8434**	**3.5931**	**1.4939**	**0.7760**	**2.2699**	**0.0000**	**2,275.1507**	**2,275.1507**	**0.7358**		**2,290.6031**

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	0.0000	0.0000	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	0.0335	0.0398	0.5002	1.6600e-003	0.1277	8.9000e-004	0.1286	0.0339	8.3000e-004	0.0347		115.7417	115.7417	4.7200e-003		115.8409
Total	**0.0335**	**0.0398**	**0.5002**	**1.6600e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**115.7417**	**115.7417**	**4.7200e-003**		**115.8409**

3.3 Paving - 2020

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	0.2669	2.4493	2.2018	3.3300e-003		0.1470	0.1470		0.1364	0.1364		304.5828	304.5828	0.0874		306.4185
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2669**	**2.4493**	**2.2018**	**3.3300e-003**		**0.1470**	**0.1470**		**0.1364**	**0.1364**		**304.5828**	**304.5828**	**0.0874**		**306.4185**

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	0.3123	3.1544	3.2054	0.0149	0.3524	0.0675	0.4198	0.0966	0.0621	0.1587		1,403.3494	1,403.3494	0.0104		1,403.5675
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	0.0168	0.0199	0.2501	8.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.1000e-004	0.0174		57.8709	57.8709	2.3600e-003		57.9204
Total	**0.3291**	**3.1743**	**3.4555**	**0.0158**	**0.4162**	**0.0679**	**0.4842**	**0.1136**	**0.0625**	**0.1761**		**1,461.2203**	**1,461.2203**	**0.0127**		**1,461.4879**

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	0.2669	2.4493	2.2018	3.3300e-003		0.1470	0.1470		0.1364	0.1364	0.0000	304.5828	304.5828	0.0874		306.4185
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2669**	**2.4493**	**2.2018**	**3.3300e-003**		**0.1470**	**0.1470**		**0.1364**	**0.1364**	**0.0000**	**304.5828**	**304.5828**	**0.0874**		**306.4185**

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	0.3123	3.1544	3.2054	0.0149	0.3524	0.0675	0.4198	0.0966	0.0621	0.1587		1,403.3494	1,403.3494	0.0104		1,403.5675
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	0.0168	0.0199	0.2501	8.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.1000e-004	0.0174		57.8709	57.8709	2.3600e-003		57.9204
Total	**0.3291**	**3.1743**	**3.4555**	**0.0158**	**0.4162**	**0.0679**	**0.4842**	**0.1136**	**0.0625**	**0.1761**		**1,461.2203**	**1,461.2203**	**0.0127**		**1,461.4879**

4875.0001 Recology BVON - Year 5 (2020)

Stanislaus County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	7.30	User Defined Unit	7.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 5 (2020): 7.3 acres of Active Area

Land Use - 7.3 acres of Active Area

Construction Phase - Year 5 (2020)

Energy Use -

Construction Off-road Equipment Mitigation -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Grading - 2020 - 2021: ~6.25 acres to be disturbed each year

Trips and VMT - Added 1,509 hauling trips to account for concrete and aggregate base to be delivered in 2020

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	75.00
tblConstructionPhase	NumDays	20.00	75.00
tblGrading	AcresOfGrading	0.00	6.25
tblLandUse	LotAcreage	0.00	7.30
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	1,509.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.8014	17.9659	15.7560	0.0249	6.2382	0.8443	7.0825	3.3536	0.7768	4.1304	0.0000	2,377.1207	2,377.1207	0.7406	0.0000	2,392.6723
Total	**1.8014**	**17.9659**	**15.7560**	**0.0249**	**6.2382**	**0.8443**	**7.0825**	**3.3536**	**0.7768**	**4.1304**	**0.0000**	**2,377.1207**	**2,377.1207**	**0.7406**	**0.0000**	**2,392.6723**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.8014	17.9659	15.7560	0.0249	2.8774	0.8443	3.7218	1.5278	0.7768	2.3046	0.0000	2,377.1207	2,377.1207	0.7406	0.0000	2,392.6723
Total	**1.8014**	**17.9659**	**15.7560**	**0.0249**	**2.8774**	**0.8443**	**3.7218**	**1.5278**	**0.7768**	**2.3046**	**0.0000**	**2,377.1207**	**2,377.1207**	**0.7406**	**0.0000**	**2,392.6723**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**53.87**	**0.00**	**47.45**	**54.44**	**0.00**	**44.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2020	4/14/2020	5	75	
2	Paving	Paving	4/15/2020	7/28/2020	5	75	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.25

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	1,509.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

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					6.1105	0.0000	6.1105	3.3198	0.0000	3.3198			0.0000			0.0000
Off-Road	1.7728	17.9185	15.3370	0.0235		0.8434	0.8434		0.7760	0.7760		2,275.1507	2,275.1507	0.7358		2,290.6031
Total	**1.7728**	**17.9185**	**15.3370**	**0.0235**	**6.1105**	**0.8434**	**6.9539**	**3.3198**	**0.7760**	**4.0957**		**2,275.1507**	**2,275.1507**	**0.7358**		**2,290.6031**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0286	0.0474	0.4191	1.4600e-003	0.1277	8.9000e-004	0.1286	0.0339	8.3000e-004	0.0347		101.9700	101.9700	4.7200e-003		102.0691
Total	**0.0286**	**0.0474**	**0.4191**	**1.4600e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**101.9700**	**101.9700**	**4.7200e-003**		**102.0691**

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					2.7497	0.0000	2.7497	1.4939	0.0000	1.4939			0.0000			0.0000
Off-Road	1.7728	17.9185	15.3370	0.0235		0.8434	0.8434		0.7760	0.7760	0.0000	2,275.1507	2,275.1507	0.7358		2,290.6031
Total	**1.7728**	**17.9185**	**15.3370**	**0.0235**	**2.7497**	**0.8434**	**3.5931**	**1.4939**	**0.7760**	**2.2699**	**0.0000**	**2,275.1507**	**2,275.1507**	**0.7358**		**2,290.6031**

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	0.0000	0.0000	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	0.0286	0.0474	0.4191	1.4600e-003	0.1277	8.9000e-004	0.1286	0.0339	8.3000e-004	0.0347		101.9700	101.9700	4.7200e-003		102.0691
Total	**0.0286**	**0.0474**	**0.4191**	**1.4600e-003**	**0.1277**	**8.9000e-004**	**0.1286**	**0.0339**	**8.3000e-004**	**0.0347**		**101.9700**	**101.9700**	**4.7200e-003**		**102.0691**

3.3 Paving - 2020

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	0.2669	2.4493	2.2018	3.3300e-003		0.1470	0.1470		0.1364	0.1364		304.5828	304.5828	0.0874		306.4185
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2669**	**2.4493**	**2.2018**	**3.3300e-003**		**0.1470**	**0.1470**		**0.1364**	**0.1364**		**304.5828**	**304.5828**	**0.0874**		**306.4185**

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	0.3492	3.3556	4.9823	0.0149	0.3524	0.0677	0.4200	0.0966	0.0622	0.1589		1,400.0365	1,400.0365	0.0106		1,400.2580
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	0.0143	0.0237	0.2095	7.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.1000e-004	0.0174		50.9850	50.9850	2.3600e-003		51.0346
Total	**0.3635**	**3.3793**	**5.1918**	**0.0156**	**0.4162**	**0.0681**	**0.4843**	**0.1136**	**0.0627**	**0.1762**		**1,451.0215**	**1,451.0215**	**0.0129**		**1,451.2926**

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	0.2669	2.4493	2.2018	3.3300e-003		0.1470	0.1470		0.1364	0.1364	0.0000	304.5828	304.5828	0.0874		306.4185
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2669**	**2.4493**	**2.2018**	**3.3300e-003**		**0.1470**	**0.1470**		**0.1364**	**0.1364**	**0.0000**	**304.5828**	**304.5828**	**0.0874**		**306.4185**

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	0.3492	3.3556	4.9823	0.0149	0.3524	0.0677	0.4200	0.0966	0.0622	0.1589		1,400.0365	1,400.0365	0.0106		1,400.2580
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	0.0143	0.0237	0.2095	7.3000e-004	0.0639	4.5000e-004	0.0643	0.0169	4.1000e-004	0.0174		50.9850	50.9850	2.3600e-003		51.0346
Total	**0.3635**	**3.3793**	**5.1918**	**0.0156**	**0.4162**	**0.0681**	**0.4843**	**0.1136**	**0.0627**	**0.1762**		**1,451.0215**	**1,451.0215**	**0.0129**		**1,451.2926**

4875.0001 Recology BVON - Year 6 (2021)

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	3.00	User Defined Unit	3.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 6 (2021): 3 acres of Active Area

Land Use - Year 6 (2021): 3 acres of Active Area

Construction Phase - Year 6 (2021)

Grading - 2020 - 2021: ~6.25 acres to be disturbed each year

Energy Use -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Trips and VMT - Added 620 hauling trips to account for concrete and aggregate base to be delivered in 2021

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	31.00
tblConstructionPhase	NumDays	10.00	31.00
tblGrading	AcresOfGrading	0.00	6.25
tblLandUse	LotAcreage	0.00	3.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblTripsAndVMT	HaulingTripNumber	0.00	620.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0365	0.3496	0.3576	7.0000e-004	0.1038	0.0161	0.1199	0.0536	0.0148	0.0684	0.0000	60.7730	60.7730	0.0131	0.0000	61.0476
Total	**0.0365**	**0.3496**	**0.3576**	**7.0000e-004**	**0.1038**	**0.0161**	**0.1199**	**0.0536**	**0.0148**	**0.0684**	**0.0000**	**60.7730**	**60.7730**	**0.0131**	**0.0000**	**61.0476**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0365	0.3496	0.3576	7.0000e-004	0.0507	0.0161	0.0667	0.0252	0.0148	0.0400	0.0000	60.7730	60.7730	0.0131	0.0000	61.0476
Total	**0.0365**	**0.3496**	**0.3576**	**7.0000e-004**	**0.0507**	**0.0161**	**0.0667**	**0.0252**	**0.0148**	**0.0400**	**0.0000**	**60.7730**	**60.7730**	**0.0131**	**0.0000**	**61.0476**
	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**51.21**	**0.00**	**44.34**	**53.00**	**0.00**	**41.54**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	2/12/2021	5	31	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.25

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	620.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2021

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					0.0967	0.0000	0.0967	0.0517	0.0000	0.0517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0252	0.2469	0.2263	3.6000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	31.9756	31.9756	0.0103	0.0000	32.1928
Total	**0.0252**	**0.2469**	**0.2263**	**3.6000e-004**	**0.0967**	**0.0115**	**0.1081**	**0.0517**	**0.0106**	**0.0622**	**0.0000**	**31.9756**	**31.9756**	**0.0103**	**0.0000**	**32.1928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	4.2000e-004	4.2800e-003	2.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.9505	0.9505	4.0000e-005	0.0000	0.9514
Total	**3.7000e-004**	**4.2000e-004**	**4.2800e-003**	**2.0000e-005**	**1.2400e-003**	**1.0000e-005**	**1.2500e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9505**	**0.9505**	**4.0000e-005**	**0.0000**	**0.9514**

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					0.0435	0.0000	0.0435	0.0233	0.0000	0.0233	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0252	0.2469	0.2263	3.6000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	31.9756	31.9756	0.0103	0.0000	32.1927
Total	**0.0252**	**0.2469**	**0.2263**	**3.6000e-004**	**0.0435**	**0.0115**	**0.0550**	**0.0233**	**0.0106**	**0.0338**	**0.0000**	**31.9756**	**31.9756**	**0.0103**	**0.0000**	**32.1927**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	4.2000e-004	4.2800e-003	2.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.9505	0.9505	4.0000e-005	0.0000	0.9514
Total	**3.7000e-004**	**4.2000e-004**	**4.2800e-003**	**2.0000e-005**	**1.2400e-003**	**1.0000e-005**	**1.2500e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9505**	**0.9505**	**4.0000e-005**	**0.0000**	**0.9514**

3.3 Paving - 2021

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	5.8400e-003	0.0592	0.0642	9.0000e-005		3.5600e-003	3.5600e-003		3.2700e-003	3.2700e-003	0.0000	7.8039	7.8039	2.5200e-003	0.0000	7.8569
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.8400e-003**	**0.0592**	**0.0642**	**9.0000e-005**		**3.5600e-003**	**3.5600e-003**		**3.2700e-003**	**3.2700e-003**	**0.0000**	**7.8039**	**7.8039**	**2.5200e-003**	**0.0000**	**7.8569**

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	4.9100e-003	0.0428	0.0607	2.3000e-004	5.3000e-003	1.0200e-003	6.3200e-003	1.4600e-003	9.4000e-004	2.4000e-003	0.0000	19.5678	19.5678	1.5000e-004	0.0000	19.5708
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	1.9000e-004	2.1000e-004	2.1400e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4753	0.4753	2.0000e-005	0.0000	0.4757
Total	**5.1000e-003**	**0.0430**	**0.0628**	**2.4000e-004**	**5.9200e-003**	**1.0200e-003**	**6.9400e-003**	**1.6200e-003**	**9.4000e-004**	**2.5700e-003**	**0.0000**	**20.0430**	**20.0430**	**1.7000e-004**	**0.0000**	**20.0465**

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	5.8400e-003	0.0592	0.0642	9.0000e-005		3.5600e-003	3.5600e-003		3.2700e-003	3.2700e-003	0.0000	7.8039	7.8039	2.5200e-003	0.0000	7.8569
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.8400e-003**	**0.0592**	**0.0642**	**9.0000e-005**		**3.5600e-003**	**3.5600e-003**		**3.2700e-003**	**3.2700e-003**	**0.0000**	**7.8039**	**7.8039**	**2.5200e-003**	**0.0000**	**7.8569**

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	4.9100e-003	0.0428	0.0607	2.3000e-004	5.3000e-003	1.0200e-003	6.3200e-003	1.4600e-003	9.4000e-004	2.4000e-003	0.0000	19.5678	19.5678	1.5000e-004	0.0000	19.5708
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	1.9000e-004	2.1000e-004	2.1400e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4753	0.4753	2.0000e-005	0.0000	0.4757
Total	**5.1000e-003**	**0.0430**	**0.0628**	**2.4000e-004**	**5.9200e-003**	**1.0200e-003**	**6.9400e-003**	**1.6200e-003**	**9.4000e-004**	**2.5700e-003**	**0.0000**	**20.0430**	**20.0430**	**1.7000e-004**	**0.0000**	**20.0465**

4875.0001 Recology BVON - Year 6 (2021)

Stanislaus County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	3.00	User Defined Unit	3.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 6 (2021): 3 acres of Active Area

Land Use - Year 6 (2021): 3 acres of Active Area

Construction Phase - Year 6 (2021)

Grading - 2020 - 2021: ~6.25 acres to be disturbed each year

Energy Use -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Trips and VMT - Added 620 hauling trips to account for concrete and aggregate base to be delivered in 2021

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	31.00
tblConstructionPhase	NumDays	10.00	31.00
tblGrading	AcresOfGrading	0.00	6.25
tblLandUse	LotAcreage	0.00	3.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblTripsAndVMT	HaulingTripNumber	0.00	620.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6538	15.9537	14.9179	0.0246	6.3180	0.7415	7.0595	3.3551	0.6822	4.0373	0.0000	2,348.1032	2,348.1032	0.7385	0.0000	2,363.6107
Total	**1.6538**	**15.9537**	**14.9179**	**0.0246**	**6.3180**	**0.7415**	**7.0595**	**3.3551**	**0.6822**	**4.0373**	**0.0000**	**2,348.1032**	**2,348.1032**	**0.7385**	**0.0000**	**2,363.6107**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6538	15.9537	14.9179	0.0246	2.8883	0.7415	3.6298	1.5218	0.6822	2.2040	0.0000	2,348.1032	2,348.1032	0.7385	0.0000	2,363.6107
Total	**1.6538**	**15.9537**	**14.9179**	**0.0246**	**2.8883**	**0.7415**	**3.6298**	**1.5218**	**0.6822**	**2.2040**	**0.0000**	**2,348.1032**	**2,348.1032**	**0.7385**	**0.0000**	**2,363.6107**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.28**	**0.00**	**48.58**	**54.64**	**0.00**	**45.41**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	2/12/2021	5	31	
2	Paving	Paving	2/13/2021	3/29/2021	5	31	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.25

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	620.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2021

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					6.2359	0.0000	6.2359	3.3333	0.0000	3.3333			0.0000			0.0000
Off-Road	1.6252	15.9287	14.6012	0.0235		0.7409	0.7409		0.6816	0.6816		2,274.0049	2,274.0049	0.7355		2,289.4496
Total	**1.6252**	**15.9287**	**14.6012**	**0.0235**	**6.2359**	**0.7409**	**6.9768**	**3.3333**	**0.6816**	**4.0149**		**2,274.0049**	**2,274.0049**	**0.7355**		**2,289.4496**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0285	0.0250	0.3167	1.0800e-003	0.0822	6.1000e-004	0.0828	0.0218	5.7000e-004	0.0224		74.0982	74.0982	2.9900e-003		74.1611
Total	**0.0285**	**0.0250**	**0.3167**	**1.0800e-003**	**0.0822**	**6.1000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**74.0982**	**74.0982**	**2.9900e-003**		**74.1611**

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					2.8062	0.0000	2.8062	1.5000	0.0000	1.5000			0.0000			0.0000
Off-Road	1.6252	15.9287	14.6012	0.0235		0.7409	0.7409		0.6816	0.6816	0.0000	2,274.0049	2,274.0049	0.7355		2,289.4496
Total	**1.6252**	**15.9287**	**14.6012**	**0.0235**	**2.8062**	**0.7409**	**3.5470**	**1.5000**	**0.6816**	**2.1816**	**0.0000**	**2,274.0049**	**2,274.0049**	**0.7355**		**2,289.4496**

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	0.0000	0.0000	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	0.0285	0.0250	0.3167	1.0800e-003	0.0822	6.1000e-004	0.0828	0.0218	5.7000e-004	0.0224		74.0982	74.0982	2.9900e-003		74.1611
Total	**0.0285**	**0.0250**	**0.3167**	**1.0800e-003**	**0.0822**	**6.1000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**74.0982**	**74.0982**	**2.9900e-003**		**74.1611**

3.3 Paving - 2021

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	0.3768	3.8201	4.1407	5.7300e-003		0.2294	0.2294		0.2111	0.2111		554.9890	554.9890	0.1795		558.7583
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3768**	**3.8201**	**4.1407**	**5.7300e-003**		**0.2294**	**0.2294**		**0.2111**	**0.2111**		**554.9890**	**554.9890**	**0.1795**		**558.7583**

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	0.3033	2.6425	3.1106	0.0148	0.3503	0.0659	0.4162	0.0961	0.0607	0.1567		1,392.9800	1,392.9800	0.0104		1,393.1979
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	0.0143	0.0125	0.1583	5.4000e-004	0.0411	3.1000e-004	0.0414	0.0109	2.8000e-004	0.0112		37.0491	37.0491	1.5000e-003		37.0806
Total	**0.3175**	**2.6550**	**3.2689**	**0.0153**	**0.3913**	**0.0662**	**0.4576**	**0.1070**	**0.0609**	**0.1679**		**1,430.0291**	**1,430.0291**	**0.0119**		**1,430.2785**

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	0.3768	3.8201	4.1407	5.7300e-003		0.2294	0.2294		0.2111	0.2111	0.0000	554.9890	554.9890	0.1795		558.7583
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3768**	**3.8201**	**4.1407**	**5.7300e-003**		**0.2294**	**0.2294**		**0.2111**	**0.2111**	**0.0000**	**554.9890**	**554.9890**	**0.1795**		**558.7583**

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	0.3033	2.6425	3.1106	0.0148	0.3503	0.0659	0.4162	0.0961	0.0607	0.1567		1,392.9800	1,392.9800	0.0104		1,393.1979
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	0.0143	0.0125	0.1583	5.4000e-004	0.0411	3.1000e-004	0.0414	0.0109	2.8000e-004	0.0112		37.0491	37.0491	1.5000e-003		37.0806
Total	**0.3175**	**2.6550**	**3.2689**	**0.0153**	**0.3913**	**0.0662**	**0.4576**	**0.1070**	**0.0609**	**0.1679**		**1,430.0291**	**1,430.0291**	**0.0119**		**1,430.2785**

4875.0001 Recology BVON - Year 6 (2021)

Stanislaus County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	3.00	User Defined Unit	3.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Year 6 (2021): 3 acres of Active Area

Land Use - Year 6 (2021): 3 acres of Active Area

Construction Phase - Year 6 (2021)

Grading - 2020 - 2021: ~6.25 acres to be disturbed each year

Energy Use -

Off-road Equipment - Expected construction equipment

Off-road Equipment - Similar equipment used to represent expected equipment

Trips and VMT - Added 620 hauling trips to account for concrete and aggregate base to be delivered in 2021

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	31.00
tblConstructionPhase	NumDays	10.00	31.00
tblGrading	AcresOfGrading	0.00	6.25
tblLandUse	LotAcreage	0.00	3.00
tblOffRoadEquipment	HorsePower	400.00	189.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblTripsAndVMT	HaulingTripNumber	0.00	620.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6497	15.9585	14.8768	0.0244	6.3180	0.7415	7.0595	3.3551	0.6822	4.0373	0.0000	2,339.3437	2,339.3437	0.7385	0.0000	2,354.8512
Total	**1.6497**	**15.9585**	**14.8768**	**0.0244**	**6.3180**	**0.7415**	**7.0595**	**3.3551**	**0.6822**	**4.0373**	**0.0000**	**2,339.3437**	**2,339.3437**	**0.7385**	**0.0000**	**2,354.8512**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6497	15.9585	14.8768	0.0244	2.8883	0.7415	3.6298	1.5218	0.6822	2.2040	0.0000	2,339.3437	2,339.3437	0.7385	0.0000	2,354.8512
Total	**1.6497**	**15.9585**	**14.8768**	**0.0244**	**2.8883**	**0.7415**	**3.6298**	**1.5218**	**0.6822**	**2.2040**	**0.0000**	**2,339.3437**	**2,339.3437**	**0.7385**	**0.0000**	**2,354.8512**
	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.28**	**0.00**	**48.58**	**54.64**	**0.00**	**45.41**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	2/12/2021	5	31	
2	Paving	Paving	2/13/2021	3/29/2021	5	31	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.25

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Off-Highway Trucks	1	8.00	189	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	620.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2021

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					6.2359	0.0000	6.2359	3.3333	0.0000	3.3333			0.0000			0.0000
Off-Road	1.6252	15.9287	14.6012	0.0235		0.7409	0.7409		0.6816	0.6816		2,274.0049	2,274.0049	0.7355		2,289.4496
Total	**1.6252**	**15.9287**	**14.6012**	**0.0235**	**6.2359**	**0.7409**	**6.9768**	**3.3333**	**0.6816**	**4.0149**		**2,274.0049**	**2,274.0049**	**0.7355**		**2,289.4496**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0245	0.0297	0.2756	9.5000e-004	0.0822	6.1000e-004	0.0828	0.0218	5.7000e-004	0.0224		65.3388	65.3388	2.9900e-003		65.4016
Total	**0.0245**	**0.0297**	**0.2756**	**9.5000e-004**	**0.0822**	**6.1000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**65.3388**	**65.3388**	**2.9900e-003**		**65.4016**

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					2.8062	0.0000	2.8062	1.5000	0.0000	1.5000			0.0000			0.0000
Off-Road	1.6252	15.9287	14.6012	0.0235		0.7409	0.7409		0.6816	0.6816	0.0000	2,274.0049	2,274.0049	0.7355		2,289.4496
Total	**1.6252**	**15.9287**	**14.6012**	**0.0235**	**2.8062**	**0.7409**	**3.5470**	**1.5000**	**0.6816**	**2.1816**	**0.0000**	**2,274.0049**	**2,274.0049**	**0.7355**		**2,289.4496**

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	0.0000	0.0000	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	0.0245	0.0297	0.2756	9.5000e-004	0.0822	6.1000e-004	0.0828	0.0218	5.7000e-004	0.0224		65.3388	65.3388	2.9900e-003		65.4016
Total	**0.0245**	**0.0297**	**0.2756**	**9.5000e-004**	**0.0822**	**6.1000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**65.3388**	**65.3388**	**2.9900e-003**		**65.4016**

3.3 Paving - 2021

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	0.3768	3.8201	4.1407	5.7300e-003		0.2294	0.2294		0.2111	0.2111		554.9890	554.9890	0.1795		558.7583
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3768**	**3.8201**	**4.1407**	**5.7300e-003**		**0.2294**	**0.2294**		**0.2111**	**0.2111**		**554.9890**	**554.9890**	**0.1795**		**558.7583**

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	0.3360	2.8106	4.8471	0.0148	0.3503	0.0661	0.4164	0.0961	0.0608	0.1569		1,389.6881	1,389.6881	0.0106		1,389.9096
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	0.0122	0.0149	0.1378	4.8000e-004	0.0411	3.1000e-004	0.0414	0.0109	2.8000e-004	0.0112		32.6694	32.6694	1.5000e-003		32.7008
Total	**0.3483**	**2.8255**	**4.9849**	**0.0153**	**0.3913**	**0.0664**	**0.4578**	**0.1070**	**0.0611**	**0.1681**		**1,422.3575**	**1,422.3575**	**0.0121**		**1,422.6104**

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	0.3768	3.8201	4.1407	5.7300e-003		0.2294	0.2294		0.2111	0.2111	0.0000	554.9890	554.9890	0.1795		558.7583
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3768**	**3.8201**	**4.1407**	**5.7300e-003**		**0.2294**	**0.2294**		**0.2111**	**0.2111**	**0.0000**	**554.9890**	**554.9890**	**0.1795**		**558.7583**

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	0.3360	2.8106	4.8471	0.0148	0.3503	0.0661	0.4164	0.0961	0.0608	0.1569		1,389.6881	1,389.6881	0.0106		1,389.9096
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	0.0122	0.0149	0.1378	4.8000e-004	0.0411	3.1000e-004	0.0414	0.0109	2.8000e-004	0.0112		32.6694	32.6694	1.5000e-003		32.7008
Total	**0.3483**	**2.8255**	**4.9849**	**0.0153**	**0.3913**	**0.0664**	**0.4578**	**0.1070**	**0.0611**	**0.1681**		**1,422.3575**	**1,422.3575**	**0.0121**		**1,422.6104**

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A.2 - Water Quality Order 2015-0121-DWQ and Notice of Applicability

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STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2015-0121-DWQ

GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMPOSTING OPERATIONS

AUGUST 4, 2015

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

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Table of Contents

ACRONYMS AND ABBREVIATIONS

Antidegradation Policy	State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters of California*
Basin Plan	Water Quality Control Plan
BMP	Best Management Practices
BPTC	Best Practicable Treatment or Control
CalOES	California Governor's Office of Emergency Services
CalRecycle	California Department of Resources Recycling and Recovery
CEQA	California Environmental Quality Act
cm/s	Centimeters per second
CPLX	Complexity of the Discharge Rating
cy	Cubic Yards
EDF	Electronic Deliverable Format
EIR	Environmental Impact Report
EQ	Exceptional Quality
FEMA	Federal Emergency Management Agency
FDS	Fixed Dissolved Solids
Industrial General Permit	Waste Discharge Requirements for Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities
LEA	Local Enforcement Agency
MDL	Method Detection Limit
mg/L	Milligrams per Liter
mg/kg	Milligrams per kilogram
µmhos/cm	Micromhos per centimeter
MPI	Minutes per Inch
MRP	Monitoring and Reporting Program
NOA	Notice of Applicability
NOI	Notice of Intent to Comply with the Terms of General Waste Discharge Requirements for Composting Operations
NPDES	National Pollutant Discharge Elimination System

PDF	Portable Document Format
POTW	Publicly Owned Treatment Works
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
Regional Water Board	Regional Water Quality Control Board
State Water Board	State Water Resources Control Board
TDS	Total Dissolved Solids
TTWQ	Threat to Water Quality Rating
U.S. EPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements

BACKGROUND INFORMATION

FINDINGS:

The State Water Resources Control Board (State Water Board) finds that:

1. The State of California currently disposes an estimated 35 million tons of waste annually in landfills, of which 32 percent is compostable organic material, 29 percent is construction debris, and 17 percent is paper.
2. Composting is the biological decomposition of organic materials by microorganisms under controlled aerobic conditions to create a product (e.g., soil amendment or soil blend). Compostable materials comprise a wide range of material types: grass, leaves, branches, prunings, stumps, wood waste, agricultural materials, manure, food, and biosolids.
3. Composting organic material yields environmental benefits by recycling nutrients and diverting materials from landfills. Diversion of compostable materials from landfills reduces the amount of material landfilled and extends landfill capacity and service life.
4. Compost can be a valuable soil amendment that improves soil tilth and plant health, increases soil water holding capacity, reduces runoff, adds beneficial micro-organisms, adds organic matter, and sequesters carbon.
5. Composting activities typically occur on open and uncovered land, exposed to precipitation. However, some composting activities are performed within structures, protected from precipitation.
6. Compostable materials may contain nutrients, metals, salts, pathogens, and oxygen-reducing compounds that can degrade water quality if allowed to migrate into groundwater or surface water. The process of composting can allow contaminants to migrate with leachate or wastewater from these materials. Additionally, composting nutrient-rich feedstocks on more permeable soil has the potential to create elevated nitrate concentrations in groundwater.
7. Composting facilities may contain areas where composting operations occur as well as ancillary buildings (e.g., office space, equipment storage, etc.). For the purposes of these General Waste Discharge Requirements for Composting Operations (General Order), the term “Composting Operation” shall mean the area at which operations are conducted, including the receiving area, pre-processing, processing, curing, storage areas, detention ponds, and other areas associated with production of compost, including storage areas for feedstocks, additives, or amendments. Attachment A, attached hereto and made part of this order, provides definitions of terms and phrases used in this General Order.
8. For the purposes of this General Order, all references to compost include compost piles actively being composted, cured, and stored on site to mature prior to sale or use (final product).
9. Water Code section 13260, subdivision (a) requires that any person discharging waste or proposing to discharge waste, other than to a community sewer system, that could affect

the quality of the waters of the state, shall file a report of waste discharge. Water Code section 13263 provides that a Regional Water Quality Control Board (Regional Water Board) or the State Water Board shall prescribe waste discharge requirements (WDRs) that implement the Regional Water Boards' water quality control plans (Basin Plans) and take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose and the need to prevent nuisance. "Waste" is defined in Water Code section 13050, subdivision (d).

10. Assembly Bill No. 341 enacted in 2011 (2011–2012 Reg. Sess.; Stats. 2011, ch. 476) established a policy goal that not less than 75 percent of the solid waste generated in the state be source-reduced, recycled, or composted by 2020. The California Department of Resources Recycling and Recovery (CalRecycle) developed a plan to increase the diversion of compostable materials.

11. CalRecycle has adopted regulations governing compostable material handling facilities. (Cal. Code Regs., tit. 14, div. 7, ch. 3.1.) The regulations address composting operations including facility siting, design standards, operating standards, environmental health standards, such as sampling and pathogen reduction requirements for the compost products derived from compostable materials prior to being sold or given away, recordkeeping, monitoring, reporting, and site restoration. CalRecycle's authority does not include regulating water quality. The State Water Board and each Regional Water Board have primary responsibility for coordination and control of water quality (Wat. Code, § 13001).

12. Historic regulation of composting operations by the Regional Water Boards has included individual WDRs or conditional waivers of WDRs. This General Order provides a streamlined method to allow the Regional Water Boards to permit composting operations and address potential impacts to water quality.

13. Dischargers covered by individual WDRs or a conditional waiver of WDRs may continue discharging under that authority until those orders expire or come up for renewal. At that time, or earlier at the discretion of the Regional Water Boards, it is the intent of the State Water Board that Regional Water Boards will enroll all eligible composting operations under this General Order. If a Regional Water Board determines that, due to site-specific conditions, coverage under this General Order will not be protective of water quality, the Regional Water Board may issue individual WDRs for a composting operation. If a composting operation is co-located at a landfill or other facility that has individual or general WDRs, the composting operation does not need to be covered under this General Order if the landfill or other facility's WDRs include requirements for the composting operation as determined by the Regional Water Board.

14. Water Code section 13263, subdivision (i) states that the State Water Board or a Regional Water Board may prescribe general WDRs for a category of discharges if the State Water Board or Regional Water Board finds or determines that all of the following criteria apply to the discharges in that category:
    a. The discharges are produced by the same or similar operations;
    b. The discharges involve the same or similar types of waste;

c. The discharges require the same or similar treatment standards; and
d. The discharges are more appropriately regulated under general WDRs than individual WDRs.

Composting operations that will be regulated under this General Order are consistent with the criteria listed above, and therefore a general order is appropriate. All discharges regulated under this order will be from similar operations and will be consistent with the description of composting operations as defined in this General Order. The discharges will use similar containment methods (e.g. pads and ponds). Individual WDRs are not necessary because the discharges are similar and discharge requirements would be similar if individual WDRs were issued.

15. This General Order does not preempt or supersede the authority of federal, state, or local governmental agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.

16. A composting operation typically consists of a receiving and storage area for feedstocks, additives and amendments; a pre-processing area where materials are prepared for composting (screening, size adjustment, etc.); an active composting area; a curing area where the material matures before sale (moisture content and temperature is reduced); and a final screening and storage area where the final compost product is prepared for sale. Additives and amendments are often added to compost to adjust moisture content, product bulk, or pH.

17. Composting can be done on a small or large scale. This General Order only addresses composting operations that receive, process, and store at least 500 cubic yards (cy) of materials at any given time.

18. Composting typically results in release of water from the feedstock material as biological decomposition occurs. The released water becomes leachate and if sufficient in volume will drain from the compost pile. Precipitation that falls on, or water that is applied to the compost piles may also result in liquid draining from the compost piles. The liquids may contain nutrients, metals, salts, pathogens, and/or oxygen reducing compounds.

19. Water is evaporated from the compost piles, in part due to the heat generated in biological decomposition. Water is added to maintain appropriate moisture content. The water may include wastewater collected in the detention pond, or water from another water supply source.

20. Composting operations have the potential to degrade water quality with nutrients (e.g., nitrate), salinity (e.g., sodium chloride), pathogens, oxygen-reducing materials, sediment, and other waste constituents. Implementation of best practicable treatment or control (BPTC) can prevent or limit the degradation.

21. Composting operation setbacks from water supply wells and surface water bodies are provided in this General Order. Setbacks are included as a means of reducing pathogenic risks by coupling pathogen inactivation rates with groundwater travel time to a well or other potential exposure route (e.g. water contact activities). In general, a substantial unsaturated zone reduces pathogen survival compared to saturated soil conditions. Fine

grained (silt or clay) soil particles reduce the rate of groundwater transport and therefore are generally less likely to transport pathogens; coarse grained soil particles or fracture flow groundwater conditions may be more likely to transport pathogens. Setbacks also provide attenuation of other wastewater constituents through physical, chemical, and biological processes.

22. Strategies to control infiltration of wastewater into groundwater include reducing the permeability of areas where compostable materials are stored or composted, constructing sloped pads to facilitate drainage to a detention pond or tank, and reducing the permeability of detention ponds.

23. Wastewater refers to leachate or any other liquid flowing from, or on the working surface. That wastewater from the working surface may be conveyed to a detention pond. Wastewater may be reapplied to the compost piles as needed.

24. Total dissolved solids (TDS) consists of both volatile (organic) and fixed (inorganic) fractions. Varying concentrations of volatile dissolved solids will exist in wastewater that is collected in the detention pond. Volatile dissolved solids in the wastewater reapplied to compost piles may be reduced to negligible concentrations by filtration and biological degradation. However, fixed dissolved solids (FDS) do not degrade biologically.

25. The 40 Code of Federal Regulations part 503 biosolids regulations establish ceiling concentration limits for metals; pollutant concentration limits; Class A pathogen requirements; Class B pathogen requirements; site restrictions; and vector attraction reduction requirements.

26. This General Order requires biosolids that are used as a feedstock at the composting facility to comply, at a minimum, with the ceiling concentrations listed in Table 1 of 40 Code of Federal Regulations part 503.13 listed in Table 1 below, and Class B pathogen requirements. The United States Environmental Protection Agency (U.S. EPA) regularly reviews, and may revise, the limitations and requirements of 40 Code of Federal Regulations, part 503. Consult 40 Code of Federal Regulations part 503 for updates.

Table 1. Biosolids Feedstock Ceiling Concentrations

Constituent	Units	Ceiling Concentration
Arsenic	mg/kg	75
Cadmium	mg/kg	85
Copper	mg/kg	4,300
Lead	mg/kg	840
Mercury	mg/kg	57
Molybdenum	mg/kg	75
Nickel	mg/kg	420
Selenium	mg/kg	100
Zinc	mg/kg	7,500

SCOPE OF THIS GENERAL ORDER

27. The amount and type of feedstocks composted, as well as site conditions such as depth to groundwater, percolation rate, and proximity to surface water and wells inherently affects the threat to water quality. This General Order employs a tiered approach to regulating composting operations.

28. Only composting operations that comply with the allowable feedstock and setback requirements are eligible for coverage under this General Order.

    a. Tier I and Tier II allowable feedstocks (as defined in Attachment A) are limited to the materials listed in Table 2 below:

Table 2. Allowable Feedstocks

Tier I Feedstocks	Tier II Feedstocks
Agricultural materials	Food materials (non-vegetative)
Green materials	Biosolids (Class A, B, and/or Exceptional Quality (EQ)): as defined in Attachment A
Paper materials	Manure
Vegetative food materials	Anaerobic digestate derived from allowable Tier II feedstocks
Anaerobic digestate derived from allowable Tier I feedstocks	A combination of allowable Tier I and Tier II feedstocks
Residentially co-collected or self-hauled food and green materials	

    b. Composting operations shall be setback at least 100 feet from the nearest surface water body and/or the nearest water supply well. A lesser setback distance may be allowed by the Regional Water Board if the Discharger can demonstrate that the groundwater, geologic, topographic, and well construction conditions at the site are adequate to protect water quality.

29. Composting operations (Tier I or Tier II) are classified based on the types of feedstocks; total volume of materials received, processed, and stored at any given time; and hydrogeologic siting considerations. The tiers are defined as follows:

    a. **Tier I** includes a composting operation that meets all of the following conditions:

        1) The feedstocks are limited to Tier I feedstocks listed in Table 2 and defined in Attachment A;

        2) The facility receives, processes, and stores less than 25,000 cy of a combination of allowable Tier I feedstocks, compost, (active, curing, and final product) additives and amendments on site at any given time; and

        3) The percolation rate and depth to the highest anticipated groundwater level underlying the composting operation is consistent with Table 3 below:

Table 3. Tier I Percolation Rate and Depth to Groundwater Standards

Soil Percolation Rate (MPI – minutes per inch)	Depth to Groundwater (minimum)
< 1 MPI	50 feet
1 MPI – 5 MPI	20 feet
> 5 MPI – 30 MPI	8 feet
> 30 MPI	5 feet

b. **Tier II** includes a composting operation that meets one or more of the following conditions:

1) The feedstocks include any of the Tier II feedstocks listed in Table 2, and defined in Attachment A;

2) The facility receives, processes and stores 25,000 cy or more of a combination of allowable Tier I or Tier II feedstocks, compost, additives and amendments on site at any given time; and/or

3) The site-specific hydrogeologic conditions do not meet the Tier I percolation rate and depth to groundwater standards listed in Table 3.

30. The following composting-related activities are unlikely to degrade water quality and are therefore exempt from this General Order. However, the Regional Water Board may determine individual WDRs are appropriate under site-specific conditions. Composting operations may be subject to other federal, state, or local regulations.

a. Agricultural composting;

b. Chipping and grinding facilities and operations. This includes chipping and grinding facilities and operations at a composting facility if located outside of the composting operation area;

c. Lot clearing by local government agencies (e.g., grubbing, tree trimming, etc.) for fire protection;

d. Composting activities that are within a fully enclosed vessel;

e. Composting operations that receive, process, and store less than 500 cy of allowable materials at any given time; and

f. Composting operations that receive, process and store less than 5,000 cy per year of allowable Tier I and Tier II feedstocks, additives and amendments that implement the following management practices:

1) Completely cover materials during storm events as needed to reduce the generation of wastewater; and

2) Manage the application of water to reduce the generation of wastewater.

31. Discharges of the following wastes may pose a significant threat to water quality, and are therefore prohibited from being discharged under this General Order. The discharge of these wastes may be more appropriately regulated by individual WDRs or other orders issued by the Regional Water Board.
    a. Animal carcasses;
    b. Liquid wastes other than those of food origin;
    c. Medical wastes as defined in Health and Safety Code section 117690;
    d. Radioactive wastes;
    e. Septage;
    f. Sludge, including but not limited to sewage sludge, water treatment sludge, and industrial sludge;
    g. Wastes classified as “designated”, as defined in Water Code section 13173;
    h. Wastes classified as “hazardous” as defined in California Code of Regulations, title 22, section 66261.3;
    i. Wood containing lead-based paint or wood preservatives, or ash from such wood; or
    j. Any feedstock, additive, or amendment other than those specifically described in this General Order, unless approved by the Regional Water Board as described in the Specifications.
32. The use of additives and amendments, as defined and limited by this General Order, is not expected to pose a significant threat to water quality as long as the Discharger maintains compliance with the requirements and prohibitions of this General Order. A Regional Water Board may limit or prohibit the use of an additive or amendment if the use of the additive or amendment could result in pollution or nuisance.
33. Compliance with design specifications and associated performance requirements included in this General Order is determined to be protective of water quality.
34. The requirements in this General Order do not apply to the application or use of the final compost product.
35. Technical and monitoring reports specified in this General Order are required. Failing to furnish the reports by the due date or falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the Discharger. Water Code section 13267 states, in part:

    > “In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters

> within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

The technical reports required by this General Order and the Monitoring and Reporting Program (MRP) in Attachment B are necessary to assure compliance with this General Order.

36. In accordance with Water Code section 13000 et seq., this General Order implements regulations and policies adopted by the State Water Board, including the agency's regulations under California Code of Regulations, title 23, and implements applicable provisions of the Health and Safety Code.

APPLICATION PROCESS

37. Existing composting operations, except those with individual WDRs, general WDRs, or conditional waivers of WDRs that address the composting operation as determined by the Regional Water Board, are required to seek coverage under this General Order by submitting a complete Notice of Intent (NOI) (Attachment C), including the appropriate filing fee (Cal. Code Regs., tit. 23, § 2200), and a technical report including, but not limited to, information requested in Attachment D to the Regional Water Board. The NOI, filing fee and technical report must be submitted within one year of adoption of the General Order. The technical report shall include a proposed schedule for full compliance and must be as short as practicable but may not exceed 6 years from the date of the NOI.

38. New composting operations that propose to begin operating after adoption of this General Order, are required to seek coverage by submitting a complete NOI (Attachment C), including the appropriate filing fee (Cal. Code Regs., tit. 23, § 2200) and a technical report including, but not limited to, information requested in Attachment D, to the Regional Water Board not less than 90 days prior to commencement of the composting operation.

39. For the purposes of this General Order, an NOI and accompanying technical report (as described in Attachments C and D, respectively) is equivalent to a Report of Waste Discharge. After the Regional Water Board determines that the NOI and accompanying technical report are complete, the initial fee has been received, and the composting operation can be appropriately regulated under this General Order, a Notice of Applicability (NOA) will be issued by the Regional Water Board. Within the NOA, the Regional Water Board will at a minimum, confirm a Discharger's tier, timeline for compliance, and method of monitoring to comply with applicable monitoring requirements.

40. Upon issuance of an NOA for coverage under this General Order, the Discharger's NOI and technical report will become incorporated by reference into this General Order. The

Discharger is responsible for implementing all operations in a manner that complies with this General Order.

41. The Discharger is required to pay an annual fee (e.g., waste discharge permit fee) (Wat. Code, § 13260 et seq.). The filing fee accompanying the NOI is the first year's annual fee. The annual fee is based on the threat to water quality (TTWQ) and complexity (CPLX) rating of the discharge (Cal. Code Regs., tit. 23, § 2200.). The ratings are available at: http://www.waterboards.ca.gov/resources/fees/.

ANTIDEGRADATION ANALYSIS

42. State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters of California* (hereafter the Antidegradation Policy) requires that disposal of waste into the waters of the state be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state. The quality of some waters of the state is higher than that established by adopted policies, and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires the following:

    a. Maintenance of existing high quality waters of the state unless limited degradation is consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in state policies.

    b. Any activity that produces or may produce a waste and discharges or proposes to discharge to existing high quality waters will be required to meet WDRs that will result in BPTC of the discharge necessary to assure pollution or nuisance will not occur, and the highest water quality consistent with maximum benefit to the people of the state will be maintained.

43. When issuing NOAs under this General Order, the Regional Water Board must assure that Dischargers implement BPTC as necessary to maintain the highest water quality consistent with maximum benefit to the people of the state.

44. This General Order may allow limited discharges to groundwater. There are not sufficient data to determine which receiving waters are high quality waters. To the extent a discharge covered under this General Order may be to high quality waters, this General Order authorizes limited degradation consistent with the Antidegradation Policy as described in the findings below.

45. Limited degradation of groundwater by some waste constituents associated with composting operations, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The economic prosperity of communities and associated industry, and the diversion of wastes from landfills and associated conservation of landfill space are of maximum benefit to the people of the state and provide sufficient justification for allowing limited groundwater degradation that may occur pursuant to this General Order provided the terms of the

applicable Basin Plan and other applicable State Water Board and Regional Water Board policies are consistently met.

46. This General Order places restrictions on the discharge of waste from composting operations. The terms and conditions of this General Order are designed to minimize groundwater quality degradation and protect beneficial uses of waters of the state. Implementation of water and wastewater management plans, groundwater protection plans, and construction of waste containment features at composting operations will minimize groundwater quality degradation.

47. The General Order establishes limits on the volume, types, and quality of the feedstocks, additives and amendments used at the facility. Some waste types are explicitly prohibited from use due to their threat to water quality. All feedstocks, additives and amendments must be contained in areas to control wastewater. In addition, hydrogeologic site conditions are considered when classifying a compost facility as Tier I or Tier II.

    a. Facilities that receive, process, and store less than 25,000 cy of allowable Tier I feedstocks, compost, additives and amendments on site at any given time are inherently less likely to degrade water quality because the amount and types of waste constituents present at the facility is lower than at Tier II facilities. The limits apply both to the feedstocks and the types and amounts of additives and amendments. Tier I facilities must also comply with the hydrogeologic site conditions (depth to groundwater and percolation rate) specified in the General Order.

    b. Tier II facilities impose additional BPTC measures such as limits on feedstock quality; and hydraulic conductivity requirements for working surfaces, detention ponds, and drainage ditches. Biosolids used as a feedstock must comply with the ceiling concentrations contained in Code of Federal Regulations, section 503.13 (Table 1), at a minimum. In addition, detention ponds must be constructed with a pan lysimeter to allow early detection of pond liner leakage.

48. To mitigate potential impacts to water quality, siting restrictions specified in this General Order prohibit composting operations within 100 feet of the nearest surface water body or water supply well. A lesser setback distance may be allowed by the Regional Water Board if the Discharger can demonstrate that the groundwater, geologic, topographic, and well construction conditions at the site are adequate to protect water quality. In addition, feedstocks used (Table 2), volume of materials (received, processed and stored) on site at any given time, soil percolation rate, and depth to groundwater standards (Table 3) of this General Order are used to classify composting operations into two tiers. Composting operations not meeting minimum standards for percolation rate and depth to groundwater are classified into the more protective Tier II category.

49. This General Order establishes requirements and standards for BPTC measures to limit or prevent degradation. Identified BPTC measures include:

    a. Minimize Infiltration of Waste Constituents on Working Surfaces - The most effective way to reduce or eliminate water quality impacts is to restrict infiltration of wastes on working surfaces (including receiving, processing, and storage areas). The General

Order requires working surfaces to be designed and constructed to be sloped to prevent ponding, and convey wastewater to an approved wastewater management system. Tier II facilities must also comply with a hydraulic conductivity standard to limit infiltration of liquids to the subsurface at working surfaces, drainage ditches and detention ponds.

b. Design and Operate Detention Ponds to Contain and Reuse Wastewater - All detention ponds must comply with design, construction, and maintenance requirements in this General Order. The General Order includes requirements that ponds must be designed and certified by a registered professional engineer to have adequate capacity and structural integrity to hold wastewater and precipitation. All ponds must be managed to prevent breeding of mosquitos and generation of odors. Detention ponds constructed at Tier II facilities must also comply with a hydraulic conductivity standard to limit infiltration of liquids to the subsurface.

c. Perform Monitoring to Ensure BPTC Measures are Effective - To detect potential threats to water quality, detention ponds constructed at Tier II facilities must be constructed with a pan lysimeter monitoring device under the lowest point of the pond or equivalent engineered alternative approved by the Regional Water Board. The engineered alternative must provide equivalent assurance of the earliest possible detection of a release from the pond.

50. The State Water Board recognizes that composting operations play an important role in meeting California's recycling goals to divert more wastes from landfills into reusable products. In addition, composting is a strategy for reducing greenhouse gas emissions throughout the state. Benefits of using compost include increasing soil water holding capacity, adding beneficial micro-organisms to improve soil health, improving soil tilth, and carbon sequestration. Considering these benefits, the State Water Board finds that composting in compliance with this General Order is consistent with the maximum benefit to the people of the state.

TITLE 27 APPLICABILITY

51. California Code of Regulations, title 27, sections 20200 through 20230 establish a waste classification system. Wastes covered under California Code of Regulations, title 27 are classified as either inert, nonhazardous solid, or designated. Inert wastes pose minimal risk to water quality, nonhazardous solid wastes present a greater risk than inert wastes, and designated wastes pose the greatest risk to water quality. Allowable compostable materials per this General Order meet the definition of nonhazardous solid waste under California Code of Regulations, title 27, section 20220, subdivision (a).

52. California Code of Regulations, title 27, section 20200, subdivision (a)(1) allows a finding to be made that, "…a particular waste constituent or combination of constituents presents a lower risk of water quality degradation than indicated by classification according to this article." Therefore, to the extent that a particular compostable material could be characterized as designated waste, such material shall be regulated as a nonhazardous

solid waste pursuant to California Code of Regulations, title 27, section 20200, subdivision (a)(1) because the compostable material presents a lower risk to water quality than typical designated wastes when managed as required by this General Order.

53. The California Code of Regulations, title 27 regulations that apply to nonhazardous solid waste only apply to such waste that is disposed of in a landfill. Diverting compostable organic materials from landfills is one of the goals of this General Order. Therefore, compost operations eligible for coverage under this General Order, California Code of Regulations, title 27 regulations shall not apply so long as the Discharger continues to meet the requirements of this General Order.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

54. On August 7, 2015, in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), the State Water Board certified Environmental Impact Report (EIR) No. 2015012021 for this General Order. Several significant impacts related to water quality were identified in the EIR. The General Order contains mitigation measures designed to reduce the impact when possible. A summary of the water quality related significant impacts and the mitigation measures is presented below:

EIR Impact No.	Impact Summary	General Order Mitigation Measures
Impact 6.5	Composting operations have the potential to create objectionable odors affecting a substantial number of people.	The General Order requires control of objectionable odors. Mitigation measures are contained in the Specifications and Design Construction and Operation Requirements – all tiers.
Impact 9.2	Composting operations have the potential to result in substantial soil erosion or loss of topsoil.	The General Order requires control of wastewater generated by the compost process. Mitigation measures are contained in the Design Construction and Operation Requirements – all tiers.

EIR Impact No.	Impact Summary	General Order Mitigation Measures
Impact 11.1	Composting operations have the potential to result in violations of water quality standards or waste discharge requirements.	The General Order requires surface and groundwater quality to be maintained to protect beneficial uses. The following mitigation measures related to water quality standards are included in the General Order: • For mitigation related to surface water objectives, see mitigation measures in response to Impact 9.2 (listed above). • For mitigation related to groundwater objectives mitigation measures are contained in Prohibitions, Specifications, Design Construction and Operation Requirements – all tiers, and tier II, and maintenance requirements. The General Order limits the types of feedstocks used, and requires certain containment requirements to minimize infiltration.
Impact 11.3	Composting operations have the potential to substantially alter existing drainage resulting in substantial erosion or siltation on- or off-site.	Composting operations will be designed to contain wastewater on-site. See the mitigation measures described for Impact 9.2 and 11.1. Requirements of the General Order to contain wastewater on-site include the following: • Design, construct, and maintain areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost to control and manage run-on and run-off from a 25-year, 24-hour peak storm event; • Protect areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost from surface flows associated with a 25-year, 24-hour peak storm event from inundation by surface flow; • Design and operate the detention pond, containment berm, and drainage conveyance systems to contain a 25-year, 24-hour peak storm event; Require low permeability drainage ditches for Tier II operations.

EIR Impact No.	Impact Summary	General Order Mitigation Measures
Impact 11.4	Composting operations may have the potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	The General Order requires management of drainage and wastewater run-off. See Mitigation Measures 9.2, 11.1, and 11.3.
Impact 11.5	Composting operations may create or contribute runoff water which could exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	Composting operations will be designed to contain wastewater on-site. See the mitigation measures described for Impact 9.2.
Impact 11.6	Composting operations may have the potential to substantially degrade water quality.	Composting operations will be designed to contain wastewater on-site and prevent wastewater from changing groundwater quality to the extent beneficial uses are impacted. See the responses to Impacts 9.2 and 11.1.
Impact 15.2	Composting operations have the potential to exceed wastewater treatment requirements of the applicable Regional Water Board.	The General Order requires containment of wastewater that is generated. Active treatment systems at composting facilities are possible (most likely a mechanical aerator in a detention pond). If off-site disposal of wastewater is necessary, delivery to a treatment system is possible via a collection system or tank truck hauling. See the responses to Impacts 9.2 and 11.1.

EIR Impact No.	Impact Summary	General Order Mitigation Measures
Impact 15.6	Composting operations have the potential to result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	The General Order requires containment of wastewater that is generated; therefore a discharge at a wastewater treatment facility is unlikely. See the responses to Impacts 9.2 and 11.1.

55. The State Water Board has notified composting operators and owners, and governmental agencies and interested persons of its intent to certify an EIR and adopt a General Order and provided them the opportunity to attend a public meeting and submit their written views and recommendations.

56. The State Water Board, in a public meeting, heard and considered all comments pertaining to this matter.

OTHER REGULATORY CONSIDERATIONS

57. All WDRs must implement the applicable Regional Water Board's Basin Plan for the region in which the discharge occurs; therefore this General Order requires dischargers to comply with all applicable Basin Plan requirements and water quality objectives governing the discharge. In the event of a conflict between the requirements of this General Order and the Basin Plan, the more stringent requirement prevails.

58. The Discharger, as a condition of this General Order, may be required to conduct regular maintenance and monitoring to demonstrate protection of water quality and beneficial uses. Dischargers are financially responsible for costs associated with these activities as long as the operation is covered under this General Order.

59. This General Order is not a National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to the Federal Clean Water Act. For composting operations where storm water discharges off-site, the Discharger may be required to enroll under the State Water Board's General Order No. 97-03-DWQ (new Industrial General Permit 2014-0057-DWQ will be effective July 1, 2015), NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (Industrial General Permit), and/or future promulgations. If wastewater is discharged to surface water, the Discharger may be required to obtain an individual NPDES permit. Coverage under this General Order does

not exempt a facility from the federal Clean Water Act. Any facility required to obtain such permits must notify the Regional Water Board.

60. The issuance of this General Order is consistent with the goal to provide water resources protection, while considering economic and environmental impacts as stated in the Strategic Plan of the Water Boards and section 13263, subdivision (a) of the Water Code. Economic considerations are discussed in Appendix D of the EIR.

61. This General Order does not supersede the authority of local governmental agencies to prohibit, restrict, or control the use of biosolids subject to their control, as allowed under current law. It is the responsibility of the Discharger to obtain any local governmental agency permits or authorizations prior to the composting or use of biosolids at each site.

62. This General Order does not supersede any federal, state, or local law or regulation.

63. Pursuant to Water Code section 13263, subdivision (g), the discharge of waste into waters of the state is a privilege, not a right, and adoption of this General Order does not create a vested right to discharge wastes into the waters of the state. Failure to prevent conditions that create or threaten to create pollution or nuisance or that may unreasonably degrade waters of the state will be sufficient reason to modify, revoke, or enforce this General Order.

64. Pursuant to Water Code section 13241 and 13263, the State Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:

    a. Past, present, and probable future beneficial uses of water;
    b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;
    c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;
    d. Economic considerations;
    e. The need for developing housing within the region(s); and
    f. The need to develop and use recycled water.

IT IS HEREBY ORDERED

IT IS HEREBY ORDERED pursuant to Water Code sections 13263 and 13267, the Discharger, its agents, successors, and assigns, in order to meet the provisions contained in division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

PROHIBITIONS

1. Any feedstock, additive, amendment, or compost (active, curing, or final product) stored, processed, or composted outside of the designated composting operation areas, as those boundaries are specified in an NOI and/or a technical report, and approved by the Regional Water Board, is prohibited.

2. Any volume of any feedstock, additive, amendment, or compost (active, curing, or final product) exceeding those specified in this General Order is prohibited.
3. Use of any feedstock, additive, amendment, or material, other than those described in this General Order is prohibited.
4. Discharge of any of the following wastes, including storage thereof, at a composting operation under this General Order is prohibited:
    a. Animal carcasses;
    b. Liquid wastes other than those of food origin;
    c. Medical wastes as defined in the Health and Safety Code section 117690;
    d. Radioactive wastes;
    e. Septage;
    f. Sludge, including but not limited to sewage sludge, water treatment sludge, and industrial sludge;
    g. Wastes classified as “designated” as defined in Water Code section 13173;
    h. Wastes classified as “hazardous” as defined in California Code of Regulations, title 22, section 66261.3;
    i. Wood containing lead-based paint or wood preservatives, or ash from such wood; or
    j. Any feedstock, additive, or amendment other than those specifically described in this General Order, unless approved by the Regional Water Board.
5. Discharges of feedstocks, additives, amendments, or wastes to lands not owned, leased, or otherwise controlled by the Discharger for the purposes of composting is prohibited.
6. Discharge of wastes to surface waters is prohibited, except as authorized by an NPDES permit.
7. Discharge of wastes including overflow, wastewater, or bypass from transport, treatment, storage, or disposal systems to adjacent drainages or adjacent properties is prohibited.
8. Use of biosolids as a feedstock with concentrations of a metal that exceeds the ceiling concentration presented in 40 Code of Federal Regulations section 503.13 (Table 1), is prohibited.
9. Use of biosolids as an additive or amendment is prohibited.
10. Use of anaerobic digestate derived from sewage sludge as an additive or amendment is prohibited.
11. Evapo-concentration of constituents in any detention pond that results in hazardous constituent concentration levels, as defined in California Code of Regulations, title 22, section 66261.3 is prohibited.

SPECIFICATIONS

1. The use of additives defined in this General Order, and Attachment A, is allowed provided that the additives meet the following specifications.
    a. For Tier I facilities, the following approved additives may comprise no more than 10 percent combined, on a total volume basis, of the total feedstocks for any given batch of compost:
        1) Fertilizing material applied at rates that will be consumed or fixed/immobilized during active composting;
        2) Manure;
        3) Anaerobic digestate (solid) derived from any material other than allowable Tier I feedstocks ; and/or
        4) Other material specified in an NOI and/or a technical report, and approved by the Regional Water Board.
    b. For Tier II facilities, the following approved additives may comprise no more than 30 percent combined (other than liquid food material), on a total volume basis, of the total feedstocks for any given batch of compost:
        1) Fertilizing material applied at rates that will be consumed or fixed/immobilized during active composting;
        2) Liquid food material specified in an NOI and/or a technical report, and approved by the Regional Water Board, and applied at a rate that prevents conditions leading to pollution or nuisance, as defined in Water Code section 13050;
        3) Anaerobic digestate (solid) derived from any material other than allowable Tier I and Tier II feedstocks; and/or
        4) Other material specified in an NOI and/or a technical report, and approved by the Regional Water Board.
2. Additives and amendments must be handled, stored, and processed in the manner specified in the NOI and/or technical report and approved by the Regional Water Board.
3. All feedstocks, additives, amendments, and compost (active, curing, or final product) must not cause, threaten to cause, or contribute to conditions of pollution, contamination, or nuisance. These discharges must comply with the applicable Basin Plan requirements.
4. All feedstocks, additives, amendments, and compost (active, curing, or final product) must be located on containment structures designed and constructed as required by this General Order.
5. Dischargers must submit with the NOI and technical report, a Water and Wastewater Management Plan that describes how wastewater will be managed to prevent discharge. The plan must describe the design, operations, and maintenance of the systems, including water balance calculations and assumptions, if required.
6. Wastewater shall be handled and managed in accordance with an approved Water and Wastewater Management Plan in the technical report described in Attachment D.

7. Feedstocks for composting shall be limited to the allowable Tier I and Tier II feedstocks listed in Table 2 and defined in Attachment A.
8. Composting operations shall be setback at least 100 feet from the nearest surface water body and/or the nearest water supply well. A lesser setback distance may be allowed by the Regional Water Board if the Discharger can demonstrate that the groundwater, geologic, topographic, and well construction conditions at the site are adequate to protect water quality.
9. For Tier I and Tier II facilities, the type of amendments must be specified in a NOI and/or a technical report.

DESIGN, CONSTRUCTION AND OPERATION REQUIREMENTS – ALL TIERS

1. Areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) must be designed to limit water quality degradation. Working surfaces and containment structures must be designed, constructed, operated and maintained to:
   a. Facilitate drainage and minimize ponding by sloping or crowning pads to reduce infiltration of liquids;
   b. Reliably transmit free liquid present during storage, treatment, and processing of materials to a containment structure to minimize the potential for waste constituents to enter groundwater or surface water; and
   c. Prevent conditions that could contribute to, cause, or threaten to cause a condition of contamination, pollution, or nuisance.
2. Working surfaces must be constructed to allow year round equipment access to feedstocks, additives, amendments, and compost (active, curing, or final product) without damage to the working surfaces and containment structures.
3. To prevent potential impacts to waters of the state, the Discharger must minimize the potential for piles of feedstocks, additives, amendments, or compost (active, curing, or final product) to become over-saturated and generate wastewater.
4. Areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) must be designed, constructed, and maintained to control and manage all run-on, runoff, and precipitation which falls onto or within the boundaries of these areas, from a 25-year, 24-hour peak storm event at a minimum.
5. Areas used for receiving, processing, or storing feedstocks, additives, amendments, or compost (active, curing, or final product) must be protected from inundation by surface flows associated with a 25-year, 24-hour peak storm event at a minimum.
6. Detention ponds, if used, must be designed, constructed, and maintained to prevent conditions contributing to, causing, or threatening to cause contamination, pollution, or nuisance, and must be capable of containing, without overflow or overtopping (taking into consideration the crest of wind-driven waves and water reused in the composting

operation), all runoff from the working surfaces in addition to precipitation that falls into the detention pond from a 25-year, 24-hour peak storm event at a minimum, or equivalent alternative approved by the Regional Water Board.

7. Detention ponds, if used, shall be managed as described in the facility's Water and Wastewater Management Plan.

8. Detention ponds, if used, must be managed to maintain a dissolved oxygen concentration in the upper zone (one foot) of at least 1.0 milligrams per liter (mg/L).

9. Detention ponds, if used, shall be managed to mitigate breeding of mosquitoes including, but not limited to the following:

    a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
    b. Weeds shall be minimized through control of water depth, a shoreline synthetic liner, harvesting, or herbicides.
    c. Dead algae, vegetation, and debris shall be removed from the water surface.
    d. Coordination with the local mosquito abatement or vector control district to supplement the measures described above in cases where other methods are infeasible.

10. Berms must be designed, constructed, and maintained to prevent run-on and run-off from a 25-year, 24-hour peak storm event at a minimum. Berms must be adequately protected from erosion, and must not cause, threaten to cause, or contribute to conditions resulting in contamination, pollution, or nuisance.

11. Drainage conveyance systems must be designed, constructed, and maintained for conveyance of wastewater from the working surface in addition to direct precipitation from a 25-year, 24-hour peak storm event at a minimum. Ditches must be properly sloped to minimize ponding and kept free and clear of debris to allow for continuous flow of liquid. Ditches must be adequately protected from erosion, and must not cause, threaten to cause, or contribute to conditions resulting in contamination, pollution, or nuisance. Ditches must be inspected and cleaned out prior to the wet season every year.

DESIGN, CONSTRUCTION AND OPERATION REQUIREMENTS – TIER II ONLY

1. Working surfaces must be capable of resisting damage from the movement of equipment and weight of piles, and have a hydraulic conductivity of 1.0×10^{-5} centimeters per second (cm/s) or less. Working surfaces must consist of one of the following:

    a. Compacted soils, with a minimum thickness of one foot;
    b. Asphaltic concrete or Portland cement concrete; or
    c. An equivalent engineered alternative specified in an NOI and/or a technical report, and approved by the Regional Water Board.

2. Detention ponds must be designed, constructed, operated, and maintained to meet a hydraulic conductivity of 1.0×10^{-6} cm/s or less. These ponds must include one of the following:
   a. A liner system consisting of a 40 thousandths of an inch (mil) synthetic geomembrane (60-mil if high-density polyethylene), underlain by either one foot of compacted clay or a geosynthetic clay liner installed over a prepared base;
   b. A liner system that includes Portland cement concrete – designed to minimize cracking and infiltration – underlain by a 40-mil synthetic geomembrane (60-mil if high-density polyethylene); or
   c. An equivalent engineered alternative specified in an NOI and/or a technical report, and approved by the Regional Water Board.
3. Detention ponds must be designed and constructed with a pan lysimeter monitoring device under the lowest point of the pond, or an equivalent engineered alternative specified in an NOI and/or a technical report, and approved by the Regional Water Board. The engineered alternative must provide equivalent assurance of the earliest possible detection or prevention of a release from the pond.
4. Tanks, if used, must be designed, operated, maintained and monitored in accordance with applicable laws and regulations.
5. Drainage ditches must be designed, constructed, and maintained to convey all precipitation and runoff from a 25-year, 24-hour peak storm event at a minimum and have a hydraulic conductivity of 1.0×10^{-5} cm/s or less, and be lined with one of the following:
   a. Compacted soils, with a minimum thickness of one foot;
   b. Asphaltic concrete or Portland cement concrete; or
   c. An equivalent engineered alternative specified in an NOI and/or a technical report, and approved by the Regional Water Board.

MONITORING REQUIREMENTS

1. Dischargers subject to this General Order must implement the applicable requirements specified in Attachment B, the MRP, which are hereby incorporated by reference as part of this General Order.
2. Pursuant to Water Code section 13267, the Discharger must comply with the applicable requirements specified in the MRP (Attachment B). If a site-specific MRP becomes necessary, the Discharger must comply with requirements specified in an individual MRP issued to the Discharger by the Regional Water Board. Failure to comply with the applicable requirements specified in Attachment B or a site-specific MRP issued by the Regional Water Board may subject the Discharger to civil liability. (Wat. Code, § 13268.)
3. In lieu of meeting hydraulic conductivity specifications for Tier II working surfaces and drainage ditches, the Discharger may implement a groundwater protection monitoring program. The Discharger shall confirm this intention by submitting a complete

Groundwater Protection Monitoring Plan in the technical report with the NOI, as described in Attachment D.

4. Within 90 days of issuance of an NOA, the Discharger shall implement the approved Groundwater Protection Monitoring Plan, if applicable.

MAINTENANCE REQUIREMENTS

1. The Discharger shall maintain containment structures (e.g. berms, pads, detention ponds, tanks, run-on/run-off control structures, etc.) and monitoring systems (e.g. groundwater monitoring devices) in good working order.
2. The Discharger must regularly inspect and maintain all containment structures and monitoring systems pursuant to this General Order, MRP, and NOA. The frequency of inspections must be sufficient to prevent feedstocks, additives, amendments, compost (active, curing, or final product), or wastewater from creating, threatening to create, or contributing to conditions of contamination, pollution, or nuisance.

SITE CLOSURE REQUIREMENTS

1. Release of wastes or waste-derived constituents at an unmanaged, inactive, or abandoned composting operation may cause, threaten to cause, or contribute to degradation of the waters of the state. At least 90 days prior to ceasing composting operations, the discharger shall submit a Site Closure Plan to the Regional Water Board for approval.
2. The Discharger must jointly notify the appropriate Regional Water Board and Local Enforcement Agency in writing at the conclusion of the site closure activities that describes closure in accordance with the Site Closure Plan and Regional Water Board requirements.

REPORT REQUIREMENTS

1. **General Reporting Requirements** – The Discharger must furnish the following information within a timeframe specified by the Regional Water Board:
   a. Any information which the Regional Water Board may request to determine compliance with this General Order; and
   b. Copies of records required to be kept by this General Order.
2. **NOI and Technical Report** – The Discharger must submit an NOI and technical report as specified in Attachments C and D of this General Order. The Discharger must submit general information, site conditions, design, operations and monitoring information and a compliance schedule for existing facilities. The Discharger must submit a technical report with design information at least 90 days prior to any new construction of any working surfaces, detention ponds, berms, ditches, or any other water quality protection containment structure for approval by the appropriate Regional Water Board. The design information must include water balance calculations for detention ponds, design of

wastewater conveyance features, liner materials and thicknesses, and rationale for liner system design. The technical report must ensure testing and quality assurance of liner materials and compacted soils in accordance with commonly accepted engineering practices, American Society for Testing and Materials test methods, and/or other appropriate material standards.

3. **Final Post-Construction Report** – The Discharger must submit a post-construction report to the Regional Water Board within 60 days of completing all construction activities associated with all applicable containment and monitoring structures, as required for compliance with this General Order and the MRP. The post-construction report must contain as-built plans and specifications to document that containment and monitoring structures were properly constructed and tested.

4. **Annual Monitoring and Maintenance Report** - The Discharger must submit an Annual Monitoring and Maintenance Report to the appropriate Regional Water Board no later than **April 1st** of each year (or next subsequent business day, if falling on a weekend or state-observed holiday), as described in the MRP. The Annual Monitoring and Maintenance Report must summarize all monitoring and maintenance activities performed and adverse conditions noted since the prior reporting period with respect to all berms, ditches, working surfaces, detention ponds, and monitoring systems. As part of the Annual Monitoring and Maintenance Report, the Discharger must certify that the composting operation complies with the requirements of this General Order and applicable portions of the MRP.

5. **Reporting Declaration** - All applications, reports, or information submitted to the Regional Water Boards must be signed and certified as follows:
   a. The NOI must be signed as follows:
      1) For a corporation - by a principal executive officer of at least the level of vice president;
      2) For a partnership or sole proprietorship - by a general partner or the proprietor, respectively;
      3) For a municipality, state, federal, or other public agency - by either a principal executive officer or ranking elected official; or
      4) For a military facility - by the base commander or person with authority and responsibility for environmental matters at the facility.
   b. All other reports required by this General Order and other information required by the Regional Water Board must be signed by a person designated in paragraph (a) above, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:
      1) The authorization is made in writing by a person described in paragraph (a) above;
      2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
      3) The written authorization is submitted to the Regional Water Board.

c. Any person signing a document under this section must make the following certification:

> "I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

6. **Report Submittals** –The State Water Board and Regional Water Boards are transitioning to the paperless office system. Dischargers must submit reports (both technical and monitoring reports) to the State Water Board's GeoTracker database over the Internet in portable document format (PDF) as specified in California Code of Regulations, title 23, section 3892, subdivision (d) and section 3893. In addition, analytical data must be uploaded to the GeoTracker database under a site-specific global identification number. Information on the GeoTracker database is provided at: http://www.swrcb.ca.gov/ust/electronic_submittal/index.shtml;

7. **Use of Licensed Professionals** – The Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of licensed professionals. Any plan or report submitted in compliance with the requirements of this General Order, which requires technical interpretation, or proposes either a design, or a design change that might affect the composting operation's containment features, detention ponds, or monitoring systems must be prepared by, or under the direction of, appropriately licensed professionals (e.g., registered civil engineer, professional geologist, or other registered certified specialty geologist) by the State of California. In addition, the licensee must sign and provide his or her registration number, or stamp the submitted plan or report.

NOTIFICATION REQUIREMENTS

1. **Revised Notice of Intent** – The Discharger must submit a revised NOI to the Regional Water Board, CalRecycle, and the Local Enforcement Agency at least 90 days prior to: (1) adding a new feedstock, additive, or amendment; (2) changing material or construction specifications; (3) changing a monitoring program; or (4) changing an operation or activity that was not described in the approved NOI and technical report. The Regional Water Board may require submittal of a revised technical report.

2. **Change in Ownership Notification Requirements** – The Discharger must notify the Regional Water Board, CalRecycle, and the Local Enforcement Agency, in writing, at least

30 days in advance of any transfer of the General Order's responsibility and coverage from the current owner to a new owner. This notification shall include:

a. A statement of acknowledgment that the current owner is liable for violations occurring up to the transfer date and that the new owner is liable for violations occurring after the date that ownership of the property transfers; and

b. The new owner's NOI and technical report (if applicable).

3. **Termination of Enrollment** – Enrollment under this General Order may be terminated if any of the following occur:

   a. The Regional Water Board, based on site-specific conditions or management practices, may require the Discharger to apply for individual WDRs. The applicability of this General Order to such dischargers will be rescinded upon adoption of individual WDRs;

   b. At least 90 days prior to terminating all waste discharge activates, the Discharger must submit a Site Closure Plan to the Regional Water Board for approval. Filing a request by the Discharger for termination of this General Order does not stay any requirements of this General Order; or

   c. If the operation is eligible for an exemption due to changes in process or procedures, the Discharger may propose termination. Filing a request by the Discharger for an exemption modification, revocation, reissuance, or termination of this General Order does not stay any requirement of this General Order.

4. **Notification of Violations** – If a violation of requirements of this General Order or MRP occurs, the Discharger must notify the Regional Water Board by telephone or email, within 48hours, once the Discharger has knowledge of the violation. This notification must include a description of the noncompliance and its cause, the period of noncompliance (dates and times); and if the noncompliance has not been corrected, the anticipated time the noncompliance is expected to continue. The notification must also include steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance. Depending on the severity of the violation, the Regional Water Board may require the Discharger to submit a separate technical report regarding the violation within 10 working days of the initial notification.

5. **Monitoring Wells** – The Discharger must comply with all notice and reporting requirements of the Department of Water Resources, and with any local agency well permitting requirements regarding construction, alteration, destruction, or abandonment of any monitoring wells used for compliance with this General Order and MRP, as required under Water Code sections 13750.5 through 13755, and local agency requirements

ADDITIONAL REQUIREMENTS

1. **Duty to Comply** – Any noncompliance with this General Order constitutes a violation of the Water Code, and is grounds for enforcement action, and/or termination of enrollment under this General Order.

2. **Corrective Action** – The Discharger must take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this General Order, including accelerated or additional monitoring necessary to determine the nature and impact of the noncompliance.

3. **Responsibility for Monitoring and Maintenance** – Dischargers must be responsible for covering the costs associated with the activities necessary to maintain compliance with this General Order.

4. **Maintenance Period** – The maintenance period must continue until the Regional Water Board finds that all feedstocks, additives, amendments, compost (active, curing, or final product), wastewater, or other waste constituents or degradation products will not threaten waters of the state.

5. **Revision of Waste Discharge Requirements** – Enrollment under this General Order may be modified, revoked, reissued, or terminated for causes including, but not limited to, the following:
   a. Violation of any terms or conditions of this General Order,
   b. Obtaining this General Order by misrepresentation or failure to disclose relevant facts, or
   c. A change in any condition that requires a reduction or elimination of the authorized discharge.

   Filing a request by the Discharger for modification, revocation, re-issuance, or termination of this General Order or notification of planned changes or anticipated noncompliance does not stay any condition of this General Order.

6. **Change in Ownership** – This General Order is not transferable to any person except after notice to the Regional Water Board, CalRecycle, and the Local Enforcement Agency. The Discharger must submit a Change in Ownership Notification, pursuant to the Notification Requirements section of this General Order.

7. **Property Rights** – This General Order does not convey any property rights of any sort or any exclusive privileges. Requirements prescribed herein do not authorize commission of any act causing injury to persons or property, nor protect the Discharger from liability under federal, state, or local laws or regulations, nor create a vested right for the owner and operator to continue the regulated activity.

8. **Entry and Inspection** – Under authority of Water Code section 13267, the Discharger must allow the State Water Board and/or Regional Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law to:
   a. Enter premises where a regulated facility or activity is located or conducted, or where records must be kept under specification of this General Order;
   b. Have access to copy, at reasonable times, any records that must be kept under specification of this General Order;

c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or specified under this General Order;

d. Sample or monitor for the purposes of determining compliance with this General Order, any substances or parameters at any location; and

e. Photograph or video-record any structures, facilities, activities, or other conditions to determine compliance with this General Order.

9. **Repository for Waste Discharge Requirements** – A complete and correct copy of this General Order, the NOA, and any pertinent technical documents must be maintained at the local offices of the Discharger, and must be available to facility personnel at all times.

10. **Severability** – Provisions of this General Order are severable, and if any provision of this General Order or application of any provision of this General Order to any circumstance is held invalid, application of such provisions to other circumstances and the remainder of this General Order must not be affected thereby.

11. **Effective Date** – This General Order becomes effective upon its adoption by the State Water Board.

12. **Penalties for Investigations, Monitoring, or Inspection Violations** – The State Water Board and Regional Water Boards reserve the right to take any enforcement action authorized by law for violations of any terms and conditions of this General Order.

13 **Civil Monetary Remedies** – Water Code section 13350 et seq. provides that any person who intentionally or negligently violates any conditions issued or amended by the Regional Water Board or State Water Board, is subject to administrative civil liability of up to $10 per gallon of waste discharged, or up to $5,000 per day of violation. The Superior Court may impose civil liability of up to $10,000 per day of violation or, if a cleanup and abatement order has been issued, up to $15,000 per day of violation.

14. **Other Regulations** – Dischargers enrolled under this General Order may be subject to additional federal, state, or local regulations.

15. **Requesting Judicial Review** – Any person aggrieved by this General Order may, not later than 30 days from the date of adoption, file a petition for a writ of mandate for judicial review. Petitions that are not received within 30 days of the State Water Board's adoption of the General Order will not be eligible for review by any court. (Wat. Code, § 13330 et seq.)

16. **Delegation of Authority** – By adoption of this General Order, the State Water Board delegates to the nine Regional Water Board Executive Officers, all powers and authority that may be delegated pursuant to Water Code section 13223. The State Water Board intends for the Executive Officers to make modifications or revisions in appropriate cases, to the maintenance and monitoring requirements contained within the MRP for Dischargers enrolled under this General Order; and to grant Dischargers enrollment or termination under this General Order and MRP pursuant to eligibility and termination criteria established in this General Order.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 4, 2015.

AYE:	Chair Felicia Marcus Vice Chair Frances Spivy-Weber Board Member Tam M. Doduc Board Member Steven Moore Board Member Dorene D'Adamo
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend

Jeanine Townsend
Clerk to the Board

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ATTACHMENT A - DEFINITIONS

For the purposes of this General Order, the following terms, phrases, or abbreviations have a narrow scope of meaning, and are as follows:

Active Compost - Compost feedstock that is in the process of being rapidly decomposed and is unstable. Active compost is generating temperatures of at least 50 degrees Celsius (122 degrees Fahrenheit) during decomposition, or is releasing carbon dioxide at a rate of at least 15 milligrams per gram of active compost per day, or the equivalent of oxygen uptake. This high temperature on thermophilic phase may last from several days to several weeks.

Additives - Material mixed with feedstocks or active compost in order to adjust the moisture level, carbon to nitrogen ratio, or porosity to create a favorable condition. Additives include, but are not limited to, fertilizers and urea. Additives do not include septage, biosolids, or compost feedstock.

Agricultural Composting - The operation of composting conducted in agricultural settings where: (1) feedstocks consist of materials generated onsite by production of farm, ranch, agricultural, horticultural, silvicultural, floricultural, vermicultural, or viticultural products, for example, orchard and vineyard prunings, culls and crop residues, and spoiled or unsalvageable food commodities (but not including animal carcasses), and; (2) the resulting compost product is returned to that same agricultural site, or an agricultural site owned by the owner of the composting activity and applied at an agronomic rate. No more than an incidental amount of up to 1,000 cubic yards of compost product may be given away or sold annually.

Agricultural Material - Consists of pre-consumer plant materials coming directly from lands used in the production of farm, agricultural, horticultural, aquacultures, silvicultural, floricultural, vermicultural, or viticultural products, including orchard and vineyard prunings, and crop residues. Agricultural material does not include manure.

Amendments - Materials added to stabilized compost or cured compost to provide attributes for certain compost products, such as product bulk, product nutrient value, product pH, and soils blend. Amendments do not include septage, biosolids, or compost feedstock.

Anaerobic Digestate - The solid portion of the material remaining after the anaerobic digestion of any combination of agricultural materials, biosolids, sewage sludge, food materials, green materials, manure, paper materials, or vegetative food materials. Dewatered digestate contains organic matter that may need to be further treated to stabilize it, usually through aerated composting.

Animal Carcasses - Refers to any whole or part (including, but may not be limited to the flesh, organs, blood, bones, and marrow) of a carcass of a bird, fish, or mammal, which cannot meet the definition of “food material.”

Background Water Quality - The concentrations or measures of constituents or indicator parameters in water or soil that have not been affected by waste constituents from the area being monitored.

Beneficial Uses - Pursuant to division 7, section 13050, subdivision (f) of the Water Code. "Beneficial uses" of waters of the state that may be protected against degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Management Practice - A practice, or combination of practices, that is the most effective and feasible means of controlling degradation or pollution generated by nonpoint sources for the attainment of water quality objectives.

Biosolids - Sewage sludge that has been treated, tested, and meets:

1. The Ceiling Concentration Limits in Table 1 of 40 Code of Federal Regulations section 503.13;
2. The Class A or Class B pathogen control requirements in 40 Code of Federal Regulations part 503.32(a) or (b); and
3. One of the Vector Attraction Reduction requirements in 40 Code of Federal Regulations part 503.33(b)(1—8).

Exceptional Quality (EQ) biosolids – Biosolids meeting metals standards, Class A pathogen reduction standards, and one of the vector attraction reduction standards contained in 40 Code of Federal Regulations sections 503.13 (Table 3), section 503.32(a), and section 503.33(b)(1—8), respectively

Brine - Water saturated with or containing large amounts of common salt (sodium chloride), or a strong saline solution (e.g., calcium chloride).

California Environmental Quality Act (CEQA) - Refers to the statute promulgated in Public Resources Code, beginning with section 21000, and regulations promulgated in California Code of Regulations, title 14, chapter 3, beginning with section 15000, requiring state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

CalRecycle - The Department of Resources Recycling and Recovery (formerly the California Integrated Waste Management Board), which is the lead agency for implementing the state's municipal solid waste permit program that is deemed to be adequate by U.S. EPA under regulations published pursuant to sections 2002 and 4005 of the Resource Conservation and Recovery Act of 1976.

Chipping and Grinding Facilities and Operations - Facilities or operational areas that do not produce compost, but mechanically reduce the size or otherwise engage in the handling of "green material." Each load of "green material" must be removed from the site within 48-hours

from receipt, unless the Discharger has received written permission from the Local Enforcement Agency allowing the "green material" to remain onsite for up to 7 days.

Composting - A controlled microbial degradation of organic wastes yielding a safe and nuisance-free product.

Composting Conducted at a Publicly Owned Treatment Works - Refers to the composting of treated biosolids at a publicly owned treatment works, currently operating pursuant to permit or waste discharge requirements issued by a Regional Water Board or the State Water Board.

Composting Operation - shall mean the areas at which operations are conducted, including the receiving area, pre-processing, processing, curing, storage areas, detention ponds, and other areas associated with production of compost, including storage areas for feedstocks, additives, and/or amendments.

Constituent - An element or compound which occurs in or is likely to be derived from waste handled by a composting operation.

Constituent(s) of Concern - Any waste constituent(s), reaction product(s), and hazardous constituent(s) that is reasonably expected to be in or derived from waste handled by the composting operation.

Construction Quality Assurance - A planned system of activities that provides assurance that the facility or component thereof, is constructed as specified in the approved design. As used in this General Order, the term includes "Construction Quality Control," a planned system of inspections that is used to directly monitor and control the quality of a construction project.

Containment Structures - Refers to any berm, ditch, working surface, detention pond, or other mechanism approved by the Regional Water Board at a Composting Operation designed, constructed, and maintained to limit feedstocks, additives, amendments, and/or compost (active, curing, or final product) from threatening to cause, causing, or contributing to conditions of contamination, pollution, or nuisance.

Contamination - Defined in section 13050, subdivision (k) of the Water Code.

Curing Compost - The final stage of the composting process that occurs after compost has undergone pathogen reduction, as defined in California Code of Regulations title 14, section 17868.3, and after most of the readily metabolized material has been decomposed and stabilized. This curing phase begins after an active compost pile endures a sustained drop in temperature as remaining materials continue to decompose, but at a much slower rate. This helps to further decompose and stabilize potentially toxic organic acids and resistant compounds. The curing process helps bring compost to full-maturity, and can last several months.

Day - A calendar day unless otherwise specified.

Depth to Groundwater - The vertical distance measured, in feet, from the ground surface to the highest anticipated groundwater level.

Detention Pond - An excavated or diked area designed to capture and hold any wastewater.

Discharge - The accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of wastes into or on any land or water.

Discharger - Any person who discharges waste which could affect the quality of waters of the state, and includes any person who owns a Composting Operation or who is responsible for the operation.

Distance to Nearest Water Supply Well - The horizontal distance measured, in feet, from the nearest edge of the composting operation to the center of the water supply well head.

Distance to Nearest Surface Water - Horizontal distance measured, in feet, from the nearest edge of the composting operation to the edge of the high water mark for lakes and reservoirs, mean high tide line for tidally influenced water bodies, or the natural or levied bank for creeks and rivers.

Electronic Deliverable Format - Defined in California Code of Regulations, title 23, division 3, chapter 30, article 1, section 3891.

Evapo-concentration - The process by which the ratio of solute to water solvent is increased by the removal of the solvent and retention of the solute.

Feedstocks - Materials used in the production of compost. Feedstocks shall not be considered as either additives or amendments.

Fertilizing Material - Defined in division 7, section 14533 of the Food and Agriculture Code.

Final Product - The compost material that has completed the curing phase. Residual substances originally present in the compost pile are consumed after proper curing. The compost has been brought to maturity, and organic acids and resistant compounds have been substantially decomposed.

Food Material - Solid, and/or semi-solid materials resulting from the production or processing of food for animal or human consumption, but is no longer intended for such consumption, that is separated from the municipal solid waste stream. Food material includes, without limitation, food waste from food facilities (as defined in Health and Safety Code, section 113789), food processing establishments (as defined in Health and Safety Code, section 111955), grocery stores, institutional cafeterias (such as prisons, schools, and hospitals), restaurants, and residential food scrap collection. Food material may include meat and materials incidental to a food scrap collection program. Food material shall not contain any substance included in the Prohibitions section of this General Order.

Geocomposite Liner - A manufactured material using geotextiles, geogrids, geonets, and/or geomembranes in laminated or composite form.

Geomembrane - Flexible materials in planar form manufactured to meet specific engineering purposes. Commonly, they are used as a barrier to waste solids and fluids. The term "geomembrane" is synonymous with "synthetic liner" and "flexible membrane liner".

GeoTracker - The State Water Board database as defined in California Code of Regulations, title 23, section 3891.

Green Composting Waiver - Refers to the "Conditional Waiver of Waste Discharge Requirements for Composting Operations." Adopted by most Regional Water Boards in 1996, this waiver covered the composting of green waste, some food processing waste, agricultural waste, and paper waste discharged to land with a volume in excess of 500 cubic yards.

Green Material - Any plant material that is separated at the point of generation and consists of, or contains, materials from plants, including leaves, clippings, cuttings, trimmings of grass, weeds, shrubbery, bushes, or trees, residential or community garden waste, and untreated wood waste. Green material does not include food material, biosolids, material processed from commingled collection, wood containing lead-based paint or wood preservative, mixed construction or mixed demolition debris.

Groundwater - Water below the ground surface that is at or above atmospheric pressure (i.e., perched, unconfined, or confined water).

Groundwater Elevation - The vertical distance measured, in feet, from mean sea level to the water table of the first encountered groundwater below the ground surface.

Hydraulic conductivity - The ability of natural and artificial materials to transmit fluid. For water, including aqueous solutions, the term is expressed as a measure of the rate of flow (e.g., cubic centimeters per second) one can expect through a unit-area (e.g., one square centimeter) cross section of the material under a unit hydraulic gradient (e.g., one centimeter of head loss per centimeter of travel through the material). The resulting numerical value is expressed in velocity units (e.g., centimeters per second).

Leachate - Any liquid formed by the drainage of liquids from, or percolation/flow of liquids through any feedstock, additive, amendment, or compost (active, curing, or final product) pile.

Liquid Food Material - Liquid materials resulting from the production or processing of food for animal or human consumption - but is no longer intended for such consumption - that is separated at the point of generation from the waste stream (e.g., cheese whey, brewery waste, etc.). Liquid food material shall not contain either: brines or any waste included in the Prohibitions section of this General Order.

Liquid Wastes - Waste materials which are not spadeable or in a physical state where the waste materials behave sufficiently like a solid to be moved by a spade at normal outdoor temperatures.

Liner - A material or combination of materials designed, constructed, and maintained to contain any wastewater feedstock, additive, amendment, or compost (active, curing, or final product) discharged to land.

Local Enforcement Agencies (LEA) - Agencies that are designated by the governing body of a county or city and, upon certification by CalRecycle, are empowered to implement delegated CalRecycle programs and locally designated activities.

Lot Clearing for Fire Protection - Refers to the storage of yard trimmings at a publicly designated site for the collection of lot clearing necessary for fire protection provided that the public agency designating the site has notified the fire protection agency.

Manure - Accumulated excrement (e.g., cattle manure, chicken manure, pig manure), which includes feces and urine, and any bedding material, spilled feed, or soil that is mixed with feces or urine that does not exceed its moisture holding capacity.

Major Storm Event - Is defined as a minimum of one inch of precipitation within 24 hours.

Moisture Holding Capacity - The amount of liquid which can be held against gravity by waste materials without generating free liquid.

National Pollutant Discharge Elimination System (NPDES) - Refers to the national program under Clean Water Act section 402 (33 U.S.C. § 1342), for regulation of discharges of pollutants from point sources to waters of the United States. Discharges are illegal unless authorized by a National Pollutant Discharge Elimination System permit.

Nonhazardous Solid Waste - Means all putrescible and nonputrescible solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded waste (whether of solid or semi-solid consistency); provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of waters of the state (i.e., designated waste).

Nuisance - Defined in section 13050, subdivision (m) of the Water Code.

Pad - See definition for “working surface.”

Paper Material - Nonhazardous paper and paper by-products (including paper, cardboard, tissue, and other products manufactured from vegetative fibers).

Percolation test - A method of testing water absorption of soil. The percolation test shall be conducted as follows or an approved alternative: a minimum of six percolation tests shall be required as follows:

1. Four holes shall be spaced uniformly throughout the operations pad area to a minimum of 24 inches deep; and

2. Two holes outside the perimeter of the detention pond nearest the deepest corner. The holes shall be dug a minimum of 24 inches below the deepest part of the pond.
3. Percolation testing shall be conducted in accordance with local codes and ordinances and performed under the direction of a Professional Geologist, Civil Engineer, or Registered Environmental Health Specialist.

Pollution - Defined in section 13050, subdivision (l) of the Water Code.

Portable Document Format (PDF) - Defined in California Code of Regulations, title 23, division 3, chapter 30, article 2, section 3891.

Precipitation - Is any condensate of atmospheric water vapor and includes hail, mist, rain, sleet, or snow.

Publicly Owned Treatment Works (POTW) - Is as defined in part 403, section 403.3(q) of 40 Code of Federal Regulations.

Radioactive Material - Defined in California Code of Regulations, title 17, section 30100, subdivision (q).

Residentially co-collected or self-hauled food and green materials - Food scraps, food soiled paper, and related items that are produced in a residential setting and are set out to be co-collected with green materials (i.e. yard trimmings) as part of a municipal co-collection, or self-hauled program. No more than 10 percent of residential food material may be comingled with green materials.

Regional Water Quality Control Board (Regional Water Board) - All references to a Regional Water Board, include the Executive Officer, who may act for the Regional Water Board in carrying out this General Order. (Wat. Code, § 13050, subd. (b) & § 13223.)

Residual - The waste destined for disposal or recycling, and removed from the site.

Runoff - Any precipitation, wastewater, or other liquids that drain from any part of a Composting Operation.

Run-on - Any precipitation, wastewater, or other liquids that drain onto any part of the Composting Operation.

Separated at the Point of Generation - Includes material separated from the waste stream by the generator of that material. It may also include material from a centralized facility as long as that material was kept separate from the waste stream prior to receipt by that facility and the material was not commingled with other waste during handling.

Septage - Any waste removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar wastewater handling device that has not passed through a municipal wastewater treatment facility.

Sewage Sludge - Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a municipal wastewater treatment facility. It includes solids removed or used during primary, secondary, or advanced wastewater treatment processes. It does not include grit or screening material generated during preliminary treatment of domestic sewage at a municipal wastewater treatment facility. Sewage sludge does not include biosolids that meet the criteria in Table 1 of 40 Code of Federal Regulations section 503.13.

Significant Maintenance Activities - Refers to, but may not be limited to, those activities which could alter existing surface drainage patterns, change the existing slope configuration, occur as a result of repairing surfaces or conveyances that were damaged, or result in the installation or destruction of any monitoring system at the composting operation (e.g., groundwater monitoring well, lysimeter, etc.).

Sludge - Refers to the solid, semi-solid, or liquid residue produced by water, wastewater, or sewage treatment processes.

Source Separated - Materials that have been separated or kept separate from the waste stream, at the point of generation, for the purpose of composting.

Tier I Feedstocks - The following are allowable Tier I feedstocks: agricultural materials, green materials, paper materials, vegetative food materials, residentially co-collected food and green materials, anaerobic digestate derived from allowable Tier I feedstocks, and a combination of allowable Tier I feedstocks.

Tier II Feedstock - The following are allowable Tier II feedstocks: food materials (non-vegetative); biosolids (Class A, B, and/or EQ) as defined by 40 Code of Federal Regulations part 503; manure; anaerobic digestate derived from allowable Tier II feedstocks; and a combination of allowable Tier I and Tier II feedstocks.

Vegetative Food Material - Food material resulting from the production or processing of food for animal or human consumption, but is no longer intended for such consumption, that is derived solely from plants and is separated from the municipal solid waste stream. Vegetative food material may be processed or cooked but must otherwise remain in its essentially natural state and no salts, preservatives, fats, oils, or other adulterants have been added.

Water Quality Control Plan (Basin Plan) - Defined in division 7, section 13050, subdivision (j) of the Water Code.

Wastewater - Refers to leachate or any other liquid flowing from, or on the working surface.

Water Boards - Refers collectively to the State Water Resources Control Board and the nine Regional Water Quality Control Boards.

Waste - Defined in Water Code section 13050, subdivision (d).

Water Quality Objectives - Defined in Water Code section 13050, subdivision (h).

Waters of the State - Defined in Water Code section 13050, subdivision (e).

Wet Season - Defined as October 1 through April 30.

Working Surface - Any area at a Composting Operation used for the storage and/or treatment of feedstocks, additives, amendments, or compost (active, curing, or final product). The final product area may be excluded from the working surface hydraulic conductivity requirements under the following conditions:

- The area is isolated in a dedicated area away from the active and curing compost;
- The area is clearly marked as “final product” and
- The area is identified in the NOI and technical report and approved by the Regional Water Board.

Within Vessel and Fully enclosed - Refers to the action of receiving, composting, curing or storing any feedstock within a fully enclosed vessel or container (e.g., drum, silo, bin, bunker, tunnel, reactor, fabric-covered aerated static piles) where the organic material is covered on all sides and rests on a stable surface with environmental controls for managing all wastewaters.

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ATTACHMENT B – MONITORING AND REPORTING PROGRAM

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Regional Water Board.

This MRP includes monitoring, reporting and record keeping requirements for composting operations. Monitoring requirements include facility inspections, detention basin water quality, groundwater protection monitoring, and general sampling, as appropriate. Reporting includes requirements for the Annual Monitoring and Maintenance Report, notification of violations, and reporting of significant events. Record keeping describes the types of information and length of time that the Discharger must keep and maintain reports.

The Discharger owns and/or operates the composting operation subject to the NOA and this General Order. The reports are necessary to ensure that the Discharger complies with the NOA and the General Order. Pursuant to Water Code section 13267, the Discharger shall implement this MRP and shall submit monitoring reports described herein.

A. ROUTINE MONITORING REQUIREMENTS

1. FACILITY INSPECTIONS

Any discharger enrolled under this General Order must inspect the composting operation in accordance with the following schedule and record, at a minimum, the observations described below:

a. Operations Areas – Perform quarterly inspections of the working surfaces, berms, ditches, facility perimeter, erosion control best management practices (BMPs), and any other operational surfaces (as specified in the NOI and/or a technical report, and approved by the Regional Water Board). The Discharger shall include the following observations in the Annual Monitoring and Maintenance Report:

1) Date and time of inspections, along with the name of the inspector;
2) Evidence of areas of deficiency such as cracking or subsidence in the working surfaces;
3) Evidence of ponding over the working surfaces and within ditches (show affected area on a map);
4) Effectiveness of erosion control BMPs;
5) Maintenance activities associated with, but not limited to, the working surfaces, berms, ditches, and erosion control BMPs;
6) Evidence of any water or wastewater leaving or entering the facility, estimated size of affected area, and estimated flow rate (show affected area on a map);
7) Integrity of drainage systems during the wet season; and
8) Photographs of observed and corrected deficiencies.

b. Wastewater Management System - Perform quarterly inspections of the wastewater management system and submit the following observations and records in the Annual Monitoring and Maintenance Report:
   1) Date and time of inspections along with name of inspector;
   2) The overall condition of the wastewater management system (i.e. pond liner, storage tank construction, municipal wastewater connection points);
   3) The available capacity within storage systems and the current volume of wastewater (gallons) or solids (cubic yards) contained;
   4) Presence of odors from the wastewater management system – characterization, source, and distance from source;
   5) Volume of wastewater treated and discharged, if applicable; and
   6) Volume of wastewater disposed at an off-site treatment system and name and location of the wastewater treatment facility, if applicable.

c. Annual Survey – Perform annual survey of the facility to confirm that all containment structures are prepared for the pending wet season. Dischargers shall conduct an annual survey prior to the anticipated wet season, but no later than August 31 and complete any necessary construction, maintenance, or repairs by **October 31**. The Discharger shall include the following in the Annual Monitoring and Maintenance Report:
   1) The observation date and time of the survey, along with the name of the inspector
   2) The type of deficiency/non-compliance observed;
   3) The cause for the deficiency/noncompliance;
   4) Map showing the area of deficiency/noncompliance;
   5) The corrective actions undertaken, or planned to resolve the deficiency/non-compliance, including the date and time of repairs;
   6) The measures undertaken by the Discharger to prevent the recurrence of the observed deficiency/noncompliance; and
   7) Photographs of the observed deficiencies/noncompliance with corresponding location on the map.

d. Major Storm Events - The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage within **7 days** following major storm events. Necessary repairs shall be completed within **30 days** of the inspection. The Discharger shall report any damage and subsequent repairs including photographs of the problem and repairs in the Annual Monitoring and Maintenance Report.

2. DETENTION POND MONITORING (IF APPLICABLE)

a. Any Discharger enrolled under this General Order that has a detention pond to manage wastewater onsite must conduct monitoring of the wastewater within the detention pond quarterly when there is sufficient water and analyze the sample for the parameters listed Table B-1. Water sample analyses shall be conducted by a laboratory certified for such analyses by the State Water Board's Environmental Laboratory Accreditation Program. These laboratory analyses shall be conducted in accordance with 40 Code of Federal Regulations part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants) or other test methods approved by the Regional Water Board.

Table B-1

Detention Pond Monitoring

Constituent	Units	Sample Frequency	Reporting Frequency
pH	std. units	Quarterly	Annually
Dissolved Oxygen	mg/L	Quarterly	Annually
Total Dissolved Solids	mg/L	Quarterly	Annually
Fixed Dissolved Solids	mg/L	Quarterly	Annually
Total Nitrogen	mg/L	Quarterly	Annually
Specific Conductance	µmhos/cm	Quarterly	Annually

Note: These field parameters are measured during each sampling event.

Detention Pond Leak Detection Monitoring (Tier II only) – The leak detection monitoring device (i.e. pan lysimeter) shall be checked monthly during the wet season for liquid. Upon detection of liquid in a previously dry monitoring device Discharger shall notify the Regional Water Board within **48 hours**; collect a sample and analyze the liquid for the constituents listed in Table B-1; remove the liquid from the device; and continue to monitor weekly. If liquid reappears, another sample must be collected and analyzed for the constituents in Table B-1. If the liquid is confirmed to be wastewater, the Discharger must submit a Response Action Plan within 30 days for review and approval by the Regional Water Board.

b. The results of any monitoring conducted more frequently than required at the locations specified in this General Order shall be reported to the Regional Water Board.

3. BIOSOLIDS MONITORING (IF APPLICABLE)

a. Any Discharger enrolled under this General Order that uses biosolids as a feedstock, shall present analytical results from a certified laboratory to show proof that the biosolids meet, at a minimum, with the ceiling concentrations listed in Table 1 of 40 Code of Federal Regulations part 503. Biosolids may be characterized by the entity that generates or otherwise processes the material. Use of analytical data prepared by such an entity may be accepted in lieu of the sampling listed below. The characterization shall contain a description of the sample procedures, the analytical

report, and a statement by a responsible person that the characterization was performed in a way that accurately characterizes the quality of the biosolids. The statement shall be signed by, and shall contain the certification language contained in the General Order under Reporting Requirements. U.S. EPA regularly reviews, and may revise, the limitations and requirements of 40 Code of Federal Regulations part 503 and should be reviewed for updates.

b. Any discharger enrolled under this General Order that uses biosolids as a feedstock and does not show results from a certified laboratory shall perform monitoring to characterize the material for the parameters listed in Table B-2. The characterization shall contain a description of the sample procedures, the analytical report, and a statement by a responsible person that the characterization was performed in a way that accurately characterizes the quality of the biosolids. The statement shall be signed by, and shall contain the certification language contained in the General Order under Reporting Requirements.

Table B-2

Biosolids Monitoring

Constituent	Units	Sample Frequency	Reporting Frequency
Arsenic	mg/kg	Sample each delivery	Annually
Cadmium	mg/kg	Sample each delivery	Annually
Copper	mg/kg	Sample each delivery	Annually
Lead	mg/kg	Sample each delivery	Annually
Mercury	mg/kg	Sample each delivery	Annually
Molybdenum	mg/kg	Sample each delivery	Annually
Nickel	mg/kg	Sample each delivery	Annually
Selenium	mg/kg	Sample each delivery	Annually
Zinc	mg/kg	Sample each delivery	Annually

4. GROUNDWATER PROTECTION MONITORING (IF APPLICABLE)

a. A Discharger that is required to perform groundwater monitoring due to site conditions shall perform the monitoring shown in Table B-3. Sample analysis shall be conducted by a laboratory certified by the State Water Board's Environmental Laboratory Accreditation Program. These laboratory analyses shall be conducted in accordance with 40 Code of Federal Regulations part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants) or other test methods approved by the Regional Water Board.

b. Discharger is required to implement the sampling and analysis program detailed in the approved Groundwater Protection Monitoring Plan submitted with the NOI as part of the accompanying technical report described in Attachment D, which is hereby incorporated by reference as part of this MRP.

c. The results of any monitoring conducted more frequently than required at the locations specified in this General Order shall be reported to the Regional Water Board.

Table B-3

Groundwater Monitoring

Constituent	Units	Sample Frequency	Reporting Frequency
Groundwater Elevation [a]	0.01 Feet	Quarterly	Annually
Depth to Groundwater	0.01 Feet	Quarterly	Annually
Gradient	Feet/Feet	Quarterly	Annually
Gradient Direction	Degrees	Quarterly	Annually
pH	Std. Units	Quarterly	Annually
Total Dissolved Solids	mg/L	Quarterly	Annually
Nitrate as Nitrogen	mg/L	Quarterly	Annually
Sodium	mg/L	Quarterly	Annually
Chloride	mg/L	Quarterly	Annually
Total Coliform Organisms [b]	MPN/100 mL	Quarterly	Annually

a. Groundwater elevation shall be based on depth to water using a surveyed measuring point elevation on the well and a surveyed reference elevation.
b. Using a minimum of 15 tubes, or three dilutions.

5. GENERAL SAMPLING REQUIREMENTS

a. The Discharger shall use clean sample containers and sample handling, storage, and preservation methods that are accepted or recommended by the selected analytical laboratory or, as appropriate, in accordance with approved U.S. EPA analytical methods.
b. All samples collected shall be representative of the volume and nature of the material being sampled.
c. All sample containers shall be labeled and records maintained to show the time and date of collection as well as the person collecting the sample and the sample location.
d. All samples collected for laboratory analyses shall be preserved and submitted to the laboratory within the required holding time appropriate for the analytical method used and the constituents analyzed.
e. All samples submitted to a laboratory for analyses shall be identified in a properly completed and signed Chain of Custody form.
f. Field instruments may be used provided:
    1) The operator is trained in the proper use and maintenance of the instruments;
    2) The instruments are field calibrated prior to each monitoring event; and
    3) Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency.

g. Analytical results falling between the method detection limit (MDL) and the practical quantitation limit (PQL) shall be reported as "estimated," be accompanied by documents reporting both the MDL and PQL values for that analytical run, and be flagged appropriately (i.e., "J-flagged").

h. MDLs and PQLs shall be derived by the laboratory for each analytical procedure in accordance with the State Water Board's Environmental Laboratory Accreditation Program. In a relatively interference-free laboratory, derived MDLs and PQLs are expected to agree closely with published U.S. EPA MDLs and PQLs.

i. If the laboratory suspects that, due to a change in matrix or other effects, the MDL or PQL for a particular analytical run differs significantly from historic MDL or PQL values, results shall be flagged and reported in the quality assurance/quality control (QA/QC) report.

j. The MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99 percent reliability of non-zero results.

k. The PQL shall represent the lowest concentration at which a numerical value can be assigned with reasonable certainty.

l. All quality assurance/quality control data shall be reported, along with sample results to which it applies. This information shall include method, equipment, analytical detection, quantitation limits, recovery rates, an explanation for any recovery rate that is outside method specifications, results of equipment and method blanks, results of matrix spikes and surrogate samples, and the frequency of quality control analysis. Sample results shall be reported unadjusted for blank results or spike recovery. In cases where contaminants are detected in the quality assurance/quality control samples (i.e., field, trip, or laboratory blanks), the accompanying sample results shall be appropriately flagged.

B. REPORTING REQUIREMENTS

1. ANNUAL MONITORING AND MAINTENANCE REPORT

The Annual Monitoring and Maintenance Report shall be submitted to the Regional Water Board by **April 1st** each year. The Discharger must submit this report in a searchable, electronic format (i.e., Portable Document Format (PDF) and Electronic Deliverable Format (EDF) via the State Water Board's Internet GeoTracker system at <http://geotracker.waterboards.ca.gov/> as required by this General Order. The report must include the following:

a. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter;

b. A map or aerial photograph showing the locations of observation stations and monitoring points;

c. Tabular and graphical summaries of all water quality data collected during the year, including wastewater monitoring if applicable; and

d. All historical monitoring data collected during the previous 5 years, and for which there are detectable results, including data for the previous year, shall be submitted in tabular form and in a digital file format.

e. Monitoring information must include at a minimum:

   1) The date, identity of sample, monitoring point from which the sample was collected, and time of sampling or measurement;
   2) The name of the individual(s) who performed the sampling or measurements;
   3) Date and time that analyses were started and completed;
   4) The analytical techniques or method used, including method of preserving the sample and the identity and volume of reagents used; and
   5) Field instrument calibration logs.

f. Copy of the complete laboratory analytical report(s), signed by the laboratory director or project manager, and at a minimum contain:

   1) Complete sample analytical reports;
   2) Complete laboratory QA/QC reports;
   3) A discussion of the sample and QA/QC data;
   4) A properly completed "chain of custody" from the analyzed samples; and
   5) A transmittal letter stating whether or not all of the analytical work was supervised by the director of the laboratory, and contain the following statement:
      "All analyses were conducted at a laboratory certified for such analyses by the State Water Board's Environmental Laboratory Accreditation Program in accordance with current U.S. EPA procedures."

g. Results and discussion from the annual survey;

h. Results and discussion of the groundwater protection monitoring, if applicable, including statistical analysis as submitted in the NOI and accompanying technical report, and approved by the Regional Water Board;

i. A summary of completion of inspections and maintenance of the working surfaces, berms, ditches, erosion control BMPs or other containment structures;

j. An evaluation of completion of inspections and maintenance on the effectiveness of the wastewater handling facilities including results of the annual testing of wastewater, capacity issues, nuisance conditions, and system problems;

k. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with this General Order; and

l. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

2. NOTIFICATION OF VIOLATIONS

If the Discharger determines there has been a violation of the requirements specified in either the General Order or this MRP, the Discharger must notify the Regional Water Board office by telephone or email, within **48 hours**, once the Discharger has knowledge of the violation. The notification must include a description of the noncompliance and its cause, the period of noncompliance (dates and times); and if the noncompliance has not been corrected, the anticipated time the noncompliance is expected to continue. The notification must also include steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance.

The Regional Water Board may, depending on the severity of the violation, require the Discharger to submit a separate technical report regarding the violation within **10 working days** of the initial notification.

3. PRIORITY REPORTING OF SIGNIFICANT EVENTS

The Discharger shall report any noncompliance that endangers human health or the environment within **24 hours** of becoming aware of its occurrence. The incident shall be reported to the Regional Water Board, the local environmental health department, and to the California Governor's Office of Emergency Services (CalOES). During non-business hours, the Discharger shall leave a message on the Regional Water Board's voice mail. The message shall include the time, date, place, and nature of the noncompliance, name, and number of the reporting person, and shall be recorded in writing by the Discharger. CalOES is operational 24 hours a day. A written report shall be submitted to the Regional Water Board office within **10 working days** of the Discharger becoming aware of the incident. The report shall contain a description of the noncompliance, causes, duration, and the actual or anticipated time for achieving compliance. The report shall include complete details of steps that the Discharger has taken or intends to take to prevent recurrence. All intentional or accidental spills shall be reported as required by this provision. The written submission shall contain:

a. The approximate date, time, and location of the noncompliance including a description of the ultimate destination of any unauthorized discharge and the flow path of such discharge to a receiving water body;
b. A description of the noncompliance and its cause;
c. The flow rate, volume, and duration of any discharge involved in the noncompliance;
d. The amount of precipitation (in inches) the day of any discharge and for each of the seven days preceding the discharge;
e. A description (location, date and time collected, field measurements of pH, temperature, dissolved oxygen and electrical conductivity, sample identification, date submitted to laboratory, and analyses requested) of noncompliance discharge samples and/or surface water samples taken;
f. The period of noncompliance, including dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue;

g. A time schedule and a plan to implement corrective actions necessary to prevent the recurrence of such noncompliance; and

h. The laboratory analyses of the noncompliance discharge sample and/or upstream and downstream surface water samples shall be submitted to the Regional Water Board office within **45 days** of the discharge.

C. RECORD-KEEPING REQUIREMENTS

The Discharger must retain records of all monitoring information, including all calibration and maintenance records, and copies of all reports required by this MRP, for a minimum of **5 years** from the date of sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding the discharge or when requested by the Regional Water Board. Records of monitoring information must include at a minimum:

a. The date, identity of sample, monitoring point from which the sample was collected, and time of sampling or measurement;

b. The name of the individual(s) who performed the sampling or measurements;

c. Training logs and records;

d. Date and time that analyses were started and completed;

e. The analytical techniques or method used, including method of preserving the sample and the identity and volume of reagents used;

f. Calculation of results;

g. Results of analyses performed and method used (as proposed in an NOI and accompanying technical report, and approved by the Regional Water Board) for calculating the concentration limits for each naturally occurring constituents, based on background water quality monitoring data;

h. Results of analyses and the MDL for each non-naturally occurring constituent;

i. Laboratory quality assurance results (e.g., percent recovery, response factor, etc.); and

j. Chain of Custody forms.

Ordered by:_____
Regional Water Board
Executive Officer

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STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2015-0121-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMPOSTING OPERATIONS

ATTACHMENT C – NOTICE OF INTENT

DISCHARGER INFORMATION

Owner Name:				
Street Address:				
City/Locale:	County:	State:	Zip:	Telephone Number:
Facsimile Number:		Email Address:		
Owner Type (check one):	□ Individual	□ Corporation	□ Partnership	□ Other:

Operator Name (if different than above):				
Mailing Address:				
City/Locale:	County:	State:	Zip:	Telephone Number:
Facsimile Number:		Email Address:		

1. COMPOSTING OPERATION INFORMATION

Compost Facility Name:				
Street Address:				
City/Locale:	County:	State:	Zip:	Telephone Number:
Type (check one): □ Existing Composting Operation □ New Composting Operation		Facility Acreage (acres): Total Facility Capacity (cubic yards): Average Weekly Throughput (cubic yards per week):		

Assessor Parcel Number(s):	Regional Water Board Office:
Latitude ___°___'___" Longitude ___°___'___"	Regional Water Board Address:

2. REASONS FOR FILING

□ New Discharge	□ Existing Discharge	□ Expansion or Change in Operations
□ Changes in Ownership/Operator	□ Other:	

3. STORM WATER PERMIT

Is there an Industrial Storm Water Permit for this facility? □ Yes □ No If yes, WDID Number:_____
Related to storm water, have you received a "No Exposure Certification", "Notice of Termination", or "Notice of Exemption" for this facility? □ Yes □ No If yes, please provide a copy.

The Notice of Intent for coverage under the Industrial Storm Water Permit may be obtained over the internet at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml

4. OTHER PERMITS

Has another agency issued permits or other entitlements (e.g., solid waste facility permit, notification permit, conditional use permit, building permits, air permits) for the unit? □ Yes □ No
For each permit or entitlement, list the type, issuing agency, and date of issuance:

5. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Has a CEQA determination been made by an agency? □ Yes □ No	Name of Agency:
Type and Date of Determination:	State Clearinghouse Number:

6. PROCESS

Allowable Materials (check all that apply, and specify the quantity onsite at any time):			
□ agricultural material	cu. yds.:	□ anaerobic digestate	cu. yds.:
□ biosolids (Class A, B, or EQ)	cu. yds.:	□ food material (non-vegetative)	cu. yds.:
□ green material	cu. yds.:	□ manure	cu. yds.:
□ paper material	cu. yds.:	□ vegetative food material	cu. yds.:
□ residentially co-collected food and green material	cu. yds.:		
Current Processing Capacity (cubic yards):			
Months during which compostable materials will be on-site:			
Additives/Amendments and maximum dry weight percentage used (list):			

7. SITE CONDITIONS

Anticipated highest groundwater elevation (feet mean sea level):
Average ground surface material percolation rate (minutes per inch) or attach results of percolation testing:
Annual average precipitation (inches per year):
Distance to nearest water supply well (feet):
Closest surface water and distance (name, feet):

8. DESIGN SPECIFICATION TIERS (check one)

□ Tier I	□ Tier II	□ Tier II (monitoring)
If the box for Tier II (monitoring) has been marked, provide the proposed Groundwater Protection Monitoring Plan with Technical Report.		

9. TECHNICAL REPORT

Provide a complete technical report with all the information required in Attachment D of this General Order.

10. FILING FEE

Pursuant to California Water Code section 13260 et seq., Dischargers enrolled under this General Order are required to pay an annual fee, as determined by the State Water Resources Control Board. The filing fee accompanying this NOI is the first year's annual fee. The annual fee is based on the threat to water quality and complexity of the discharge in accordance with California Code of Regulations, title 23, section 2200. Dischargers enrolled under this General Order will be assigned a threat to water quality and complexity rating as described in the General Order and will be assessed the corresponding fee, plus any applicable surcharges. The NOI is to be accompanied by a check, made out to the State Water Resources Control Board for the payment of the filing fee.

11. CERTIFICATION

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature (Owner or Authorized Representative)	Date
Print Name	Title
Telephone Number	Email

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ATTACHMENT D – TECHNICAL REPORT REQUIREMENTS

The technical report required as part of the Notice of Intent (NOI) to comply with the terms of this General Order must be organized such that each item listed below is addressed in the same format, including the numbering scheme. The entire General Order should be thoroughly reviewed for its requirements prior to preparation of this technical report. The minimum information needed to provide a complete review of your application by the appropriate Regional Water Board is listed below. This list may not reference all information needed for every composting operation.

The Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of licensed professionals. Any plan or report submitted in compliance with the requirements of this General Order, which requires technical interpretation, or proposes either a design, or a design change that might affect the composting operation's containment features, detention ponds, or monitoring systems must be prepared by, or under the direction of, appropriately licensed professionals (e.g., registered civil engineer, professional geologist, or other registered certified specialty geologist) by the State of California. In addition, the licensee must sign and provide his or her registration number, and/or stamp the submitted plan or report.

A. GENERAL INFORMATION

1. Property owner's contact information including business name, main point of contact, address, telephone number, facsimile number, email address, and type of ownership (e.g., individual, corporation, etc.).
2. Operator's contact information including business name, main point of contact, address, telephone number, facsimile number, and email address.
3. Information including name, address, telephone number, facsimile number, and email address where legal notices may be served (if different than above).
4. Legal business name and location of composting operation. Use the most accurate location, which may include: address; nearest town; cross streets; and latitude and longitude[1].
5. Description of the Facility including:
    a. Assessor's Parcel Number(s);
    b. Legal description including Section, Township, and Range;
    c. Total Operational Footprint (acres) including ancillary activities;
    d. Permitted Operational Capacity expressed in cubic yards of all materials received, processed, and stored on site at any given time;

[1] In accordance with GeoTracker's *Survey XYZ, Well Data, and Site Map Guidelines & Restrictions* available at: http://www.waterboards.ca.gov/ust/electronic_submittal/docs/geotrackersurvey_xyz_4_14_05.pdf

   e. Land uses within one mile from the perimeter of the operation; and
   f. Description of water supply.

6. Provide a detailed site map showing the following:
   a. Location and size (in acres) of the working surface used for the storage of incoming feedstocks, additives, and amendments (receiving area);
   b. Location and size (in acres) of the working surface used for active and curing composting;
   c. Location and size (in acres) of the working surface used for the storage of final product;
   d. Drainage pattern;
   e. Berms and ditches for the conveyance of wastewaters;
   f. Location, size (in acres), and capacity (in acre feet) of all detention ponds, if applicable;
   g. Location of all sampling points for the monitoring of wastewater contained within ponds pursuant to the requirements of the General Order, if applicable;
   h. Location of all sampling points for the monitoring of storm water runoff under the Industrial General Storm Water Permit, if applicable; and
   i. Location of any groundwater monitoring wells and water supply wells within and/or near the property boundary.

7. Provide background information on the composting operation including history and a description of methods and operation used including the following:
   a. Describe the feedstock types, volumes, sources, and suppliers.
   b. Describe the additives used, sources, suppliers, and the maximum dry weight percentage used in the active composting process.
   c. Describe the amendments used, sources and suppliers in the final product.
   d. Describe the method of composting (e.g., windrow, static, forced air, mechanical).
   e. Provide process flow diagram showing movement of the material from received to final product. Include average amount of time the material remains in each part of the process.
   f. Describe how residuals are removed from the feedstocks managed and/or disposed.

B. SITE CONDITION INFORMATION

1. Climatology — Calculate required climatologic values from measurements made at a nearby climatologically similar station and provide the source data from which such values were calculated, together with the name, location, and period of record of the measuring station.
   a. Maximum, minimum, and average annual precipitation in inches/year;
   b. Mean evaporation in inches/year;

c. 25-year, 24-hour design storm event.

2. Geology:
   a. Map and Cross Sections — A comprehensive geologic map and geologic cross sections showing lithology and structural features.
   b. Materials — A description of natural geologic materials in and underlying the location of the operations, including identification of lithology, distribution and dimension features, physical characteristics, special physical or chemical features (i.e., alteration other than weathering), susceptibility to natural surface/near-surface processes, and all other pertinent lithologic data, all in accordance with current industry practices.
3. Hydrogeology, including:
   a. General – An evaluation of water bearing characteristics of natural geologic materials identified under Geology above, including hydraulic conductivity and delineation of groundwater zones.
   b. Hydraulic Conductivity – An evaluation of the in-place hydraulic conductivity of soils immediately under the operation. For Tier I facilities, this would be substituted by the soil percolation test. This evaluation includes:
      1) Hydraulic conductivity in tabular form, for selected locations within the boundary of the operations;
      2) A map of the operations showing test locations; and
      3) An evaluation of the test procedures and rationale used to obtain the data.
   c. Groundwater Flow Direction and Depth – an evaluation of the groundwater flow velocity and direction(s) within the uppermost groundwater zone and the following conditions:
      1) Maximum and average depth to first encountered groundwater below the native ground surface (in feet) and identify the source of the information; and
      2) Maximum and average groundwater elevation of first encountered groundwater (in feet) relative to mean sea level.
4. Discuss the location and distance (in feet) to the nearest water supply wells (e.g., municipal supply, domestic supply, agricultural wells) from the nearest property boundary of the operation.
5. Discuss whether the operation is located within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) designation and any design features to prevent inundation of the feedstocks, additives, amendments, compost (active, curing, or final product), or detention ponds. Include a reference to the appropriate FEMA Flood Hazard Map. Operations located within a 100-year floodplain may be subject to state and/or local land use restrictions and permits.

6. Identify all nearby surface water bodies, including streams, ditches, canals, and other drainage courses. Provide distances from the nearest property boundary of the operation to these areas on a map.

C. DESIGN INFORMATION

1. Provide the current and/or proposed design of all working surfaces, berms, and conveyance ditches for the storage and/or treatment of feedstocks, additives, amendments, and compost (active, curing, or final product), along with information demonstrating that these containment structures comply with appropriate design specifications of this General Order. Submit for each operational area detailed preliminary and/or (if existing, or later upon completion) as-built plans, specifications, and descriptions for all working surfaces or other containment structures and drainage/conveyance systems. In addition, the report shall contain a description of, and location data for, ancillary facilities including roads, waste handling areas, detention ponds, buildings, and equipment cleaning facilities.
2. Provide a Water and Wastewater Management Plan describing how water and wastewaters will be managed in accordance with this General Order. Information must include a description of and/or plan illustrating all precipitation controls, containment structures, (i.e., conveyance systems for wastewater and detention ponds), best management practices, and contingency plan including:
   a. A wastewater conveyance system for controlling run-on and runoff from the working surface.
   b. A description of how water and wastewater is obtained and used in the compost process.
   c. A description of how the operation collects and manages wastewater. Information may include, but is not limited to, quantity that is reused back into the process, description of wastewater treatment systems, other water quality permits, and best management practices (i.e. covering materials) that reduce the production of wastewater.
   d. If using a detention pond, provide a water balance demonstrating compliance with the Design, Construction and Operation Requirements section of this General Order.

D. OPERATIONS AND MONITORING INFORMATION

1. Include a proposal for an annual survey of the operation prior to the rainy season to assure that the site has been graded and prepared for the rainy season to eliminate and minimize erosion and ponding, in compliance with the requirements of this General Order.
2. Describe the inspection and maintenance program that will be undertaken regularly during composting operations, such as inspection of the containment structures for evidence of leachate, ponding, or surface failures such as cracking, spilling, or subsidence, in compliance with the specifications of this General Order.

3. Describe the means by which the composting operation will be conducted in a manner that does not cause, threaten to cause, or contribute to conditions of contamination, pollution, or nuisance.
4. Provide a description of the operations during periods of wet weather to ensure integrity of the containment systems.
5. For Dischargers proposing groundwater protection monitoring in lieu of the design specifications, include a Groundwater Protection Monitoring Plan for establishing, operating, and monitoring to verify groundwater has not been impacted by the composting operation. Include rationale for the type of monitoring, monitoring frequency, spatial distribution of monitoring points, selection of monitoring equipment, construction specifications, procedures for sampling, analysis of the data, and data evaluation. This plan must include the following:
    a. Map – a map showing the locations of the proposed monitoring system;
    b. Plans and Specifications – drawings and data showing construction details of the proposed monitoring system.
    c. Inspection Procedures – construction quality assurance plan to ensure the system will be constructed per approved plans.
    d. Sampling and Analysis – the plan shall include consistent sampling and analytical procedures that are designed to ensure that monitoring results provide a reliable indication of water quality at all monitoring points. At a minimum, the plan shall include a detailed description of the procedures and techniques for:
        1) Sample collection (i.e. container types), sampling equipment (i.e. field instruments, pumps, bailers, etc.), equipment calibration, and decontamination of sampling equipment;
        2) Sample preservation and shipment;
        3) Analytical procedures;
        4) Chain of custody control; and
        5) QA/QC procedures.
    e. Proposed Data Analysis Method – describe the methods that will be used in evaluating protection of water quality. The specifications for each data analysis method shall include a list of constituents of concern that will be monitored and a detailed description of the criteria to be used for determining “measurably significant” evidence of any release from the operation and for determining compliance.

E. SITE CLOSURE INFORMATION

The technical report must include a plan for site closure activities upon completion of operations under this General Order to protect public health, safety, and the environment. The plan must describe how the site will be restored in compliance with the Site Closure Requirements section of this General Order.

F. COMPLIANCE SCHEDULE (EXISTING FACILITIES)

The technical report shall include a proposed schedule for achieving compliance with this General Order. Proposed schedules for implementation of the identified collection, control, and monitoring practices must be as soon as practicable, supported with appropriate technical or economic justification and in no case may the schedule exceed **six years** from the date of the NOI. The Regional Water Board may modify the schedules based on evidence that meeting the compliance date is technically or economically infeasible.

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

27 January 2016

Kirk Steed
Recology Environmental Solutions, Inc.
235 N. First Street
Dixon, CA 95620

NOTICE OF APPLICABILITY

WATER QUALITY ORDER 2015-0121-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMPOSTING OPERATIONS
RECOLOGY INC.
RECOLOGY BLOSSOM VALLEY ORGANICS NORTH
STANISLAUS COUNTY

On 30 November 2015, Recology Inc. (the Discharger) submitted a Report of Waste Discharge (ROWD) for the Recology Blossom Valley Organics North composting facility (Facility) which includes a Technical Report, Notice of Intent (NOI), and a filing fee to obtain coverage under Water Quality Order 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations (hereafter General Order), for composting operations at the above-referenced site. The complete General Order can be accessed at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2015/wqo2015_0121_dwq.pdf

This Notice of Applicability (NOA) was developed after the review of your ROWD as described in the attached Staff Memorandum which is a part of this NOA. Based on staff's review, the Facility meets the conditions of the General Order, and is hereby covered under State Water Resources Control Board General Order **2015-0121-DWQ-R5S001** as a **Tier II** composting operation. The Discharger must comply with all Tier II requirements of the General Order.

The filing fee for the Recology Blossom Valley Organics North is based on Threat to Water Quality and Complexity rating of **2C**. The submitted $11,195 filing fee covers the first year permitted by this Notice of Applicability (NOA). The Discharger shall submit the required annual fee (as specified in the annual billing issued by the State Water Resources Control Board) until the Notice of Applicability is officially terminated.

To fully comply with this NOA, please familiarize yourself with the contents of the enclosed Staff Memorandum and all of the requirements of the General Order. The Discharger is responsible for implementing all operations in a manner that complies with the General Order. Any noncompliance with this General Order constitutes a violation of the Water Code, and is grounds for enforcement action, and/or termination of enrollment under this General Order.

Conditions of this Composting General Order include but are not limited to:

- The Water and Wastewater Management Plan as submitted in the Technical Report and approved by Staff must be implemented. Construction of new storage and treatment ponds with associated facilities, low flow diversion structure, and conveyance pipes must be completed by **30 November 2016**.

- The Facility must be brought to full compliance with the General Order no later than **30 November 2021**, which is six years from submittal of NOI. The timeline for compliance is proposed in the submitted Technical Report and specified in the attached Staff Memorandum.

- Technical reports must be submitted 90 days prior to each construction activity, while post-construction reports must be submitted 60 days after the completion of each construction activity.

- A revised NOI is required at least 90 days prior to: adding a new feedstock, additive, or amendment; changing material or construction specifications; changing a monitoring program; or changing an operation or activity not described in the approved NOI and technical report.

Attachment B of the General Order includes specific monitoring and reporting requirements that you must comply with, including routine monitoring and reporting to the Central Valley Regional Water Control Board. The first year Annual Monitoring and Maintenance Report as identified in the General Order must be submitted to the Central Valley Regional Water Board no later than **1 April 2017**.

Now that the NOA has been issued, the Board's Compliance and Enforcement Section will provide management of this composting site. Paul Sanders is your new point of contact for any questions about the General Order and NOA, and you may contact him at (916) 464-4817 or at Paul.Sanders@waterboards.ca.gov. If you find it necessary to make a change to your permitted operations, Paul Sanders will direct you to the appropriate Permitting staff.

All monitoring and technical reports are to be submitted to the Compliance and Enforcement Section. All monitoring reports and other correspondence must be converted to searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50 MB are to be emailed to: centralvalleysacramento@waterboards.ca.gov. Documents that are 50 MB or larger are to be transferred to a portable data storage device and mailed to this office at the address provided on the cover page, Attention: ECM Mailroom.

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or any documentation submitted to the mailing address for this office:

Attention:	Paul Sanders, Compliance and Enforcement Unit
Discharger Name:	Recology Blossom Valley Organics North
Facility Name:	Recology Blossom Valley Organics North
County:	Stanislaus County
CIWQS Place ID:	817431

If you have any questions regarding this letter or the attached Staff Memorandum, please contact Natasha Vidic at (916) 464-4614 or Natasha.Vidic@waterboards.ca.gov or Marty Hartzell at (916) 464-4630 or Marty.Hartzell@waterboards.ca.gov.

Andrew Altevogt For
PAMELA C. CREEDON
Executive Officer

Enclosures: Staff Memorandum

cc: Leslie Graves, State Water Resources Control Board, Sacramento
Miguel Galvez, Stanislaus County Planning and Community Development, Modesto

STAFF MEMORANDUM

TO: Marty Hartzell, PG, CHG
Senior Engineering Geologist

FROM: Natasha Vidic
Engineering Geologist

DATE: 26 January 2016

SUBJECT: **APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES CONTROL BOARD WATER QUALITY ORDER 2015-0121-DWQ, RECOLOGY BLOSSOM VALLEY ORGANICS NORTH COMPOSTING FACILITY, STANISLAUS COUNTY**

REPORT OF WASTE DISCHARGE

On 30 November 2015, Recology Inc. (the Discharger) submitted a Report of Waste Discharge (ROWD) for the Recology Blossom Valley Organics North (RBVON) facility. The ROWD includes a Technical Report, Notice of Intent (NOI), and Filing Fee, to obtain coverage under Water Quality Order 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations (hereafter General Order) for composting operations at the above-referenced site. On 22 January 2016, Recology submitted an update to the Technical Report to address reducing the Facility footprint and improving working surfaces.

SITE DESCRIPTION

The existing facility, formerly the Grover Environmental Products Composting Facility, is located on a 123.5-acre property at 3909 Gaffery Road in Vernalis, Stanislaus County.

The site is on the footprint of a former WWII military airport. Some of the operations take place on a former runway which extends northwest to southeast –see Attachment A. The former runway was previously paved with asphalt, and covers an area of approximately 13.8 acres. The topography of the site is relatively flat with a gentle slope to the southeast. Subsurface lithology observed during groundwater well construction consists primarily of silty/clayey gravel with intermittent lenses of clay or silt 5-15 feet thick. Land uses within one mile of the facility include agricultural fields to the north and to the south, an industrial facility supplying gypsum and aggregate products to the east, and the Delta-Mendota Canal to the west –see Attachment A.

The closest surface water is the Delta-Mendota Canal which is approximately 200 feet away from the perimeter of composting operations at its closest point, which is greater than the General Order requirement of 100 feet. There are 17 water supply wells within one mile of the facility and includes municipal, domestic, industrial, and agricultural water supply wells. Of these 17 wells, three are RBVON water supply wells, two are on-site, and one is 50 feet from the site. The closest off-site well is located 400 feet from the perimeter of the facility, which is greater

than the General Order setback requirement of 100 feet. Depth to groundwater ranges between 110-118 feet, and the groundwater flow direction determined from water levels measured in the three new groundwater monitoring wells is to the west-northwest.

Data from the Tracy Carbona Station (Station 048999) were used to estimate the average annual precipitation at 9.86 inches, and to calculate the magnitude of the design storm (24-hour 25-year wet season event) at 2.22 inches (based on National Oceanic and Atmospheric Research Administration value). Based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 0500E, the facility is not located within 100-year flood plain.

COMPOSTING OPERATIONS

According to the Technical Report, RBVON complies with allowable feedstock and setback requirements. The facility currently utilizes open windrow composting with daily receiving limit of 2,000 tons per day of green waste and food waste feedstock from residential and commercial sources. Feedstock is offloaded onto a concrete receiving pad, processed, and arranged into windrows in the active composting areas where it resides for four weeks. No additives or biosolids are used at this point of the process. After the active composting phase is completed, the material goes through a three week pathogen reducing process, and a four week curing process. Cured compost is screened, blended with amendments, and stored until it transported from the facility. Amendments that are used at the facility include zinc sulfate, potash sulfate, sulfur, boron, phosphorus, oyster shells, sand, gypsum, lime, and dolomite.

On 22 September 2015, staff visited the facility to observe monitoring well drilling at MW-01 and to perform an inspection. Staff observed processing of incoming waste on the concrete receiving pad, and observed the curing and finished compost that was stored on native soil surfaces or on areas of the old asphalt runway. Wastewater conveyance systems including drainage swales and storage ponds were unlined and dry at the time of inspection. The full inspection report with photos is available in CIWQS, inspection # 21939491.

According to the submitted Technical Report, RBVON will improve the wastewater conveyance system within the first year from submittal of the NOI (by 30 November 2016). The improved wastewater management system will consist of wastewater conveyance pipes, a low flow diversion structure, lined ponds, and lined treatment pond with associated facilities –see Attachment A. In addition to the liner systems, each pond will have a pan lysimeter for leakage monitoring. Groundwater monitoring wells have been installed adjacent to the storage ponds.

Test pits, which were excavated on 2 April 2014, show that hydraulic conductivities (ASTM D5084 using 2-psi confining pressure) of working surfaces range between 1.7×10^{-4} and 2.8×10^{-8} centimeters per second (cm/s). The minimum General Order permeability requirement for compost pads is 1×10^{-5} cm/s. To prevent infiltration of any wastewater, and depending on the existing properties of surfaces in different areas of the facility, RBVON will reduce the permeability of working surfaces to hydraulic conductivity equal or less than 1×10^{-5} cm/s through a combination of scarification, moisture conditioning, compaction, and/or adding bentonite admixture.

According to the Technical Report update submitted on 22 January 2016, the Discharger plans a significant reduction in the Facility footprint, and they will transition their operations to a smaller footprint as shown on Attachment A. Alternative working surface improvements are proposed to achieve the required hydraulic conductivity and include cement treated base with a minimum thickness of one foot, asphaltic concrete or Portland cement, or a combination,

depending on operational use. The Discharger is required to submit a revised NOI if their plans for the working surface size changes.

The Discharger must submit a technical report with design information at least 90 days prior to new construction of working surfaces, detention ponds, berms, ditches, or any other water quality protection containment structure for approval by the Central Valley Water Board. The design information must include water balance calculations for detention ponds, design of wastewater conveyance features, liner materials and thicknesses, and rationale for liner system design. The technical report must ensure testing and quality assurance of liner materials and compacted soils in accordance with commonly accepted engineering practices, American Society for Testing and Materials test methods, and/or other appropriate material standards. The Discharger must submit a post-construction report to the Central Valley Water Board within 60 days of completing all construction activities associated with all applicable containment and monitoring structures, as required for compliance with this General Order and the MRP.

TIMELINE FOR COMPLIANCE

Full compliance with Order 2015-0121-DWQ must be completed by **30 November 2021**, which is six years from submittal of the NOI.

The table below shows the proposed improvement plan schedule which incorporates on-going operations of the facility, seasonal weather, fluctuations in the market demand of finished product, and company resources. As shown on Attachment A, the proposed improvement plan includes a significant reduction in the footprint of working surfaces. RBVON must comply with the proposed timeline.

Improvement	Completion Dates
Construct New East and West Lined Storage Ponds, Lined Treatment Pond and Associated Facilities, Low Flow Diversion Structure, and conveyance pipes[a]	**30 September 2016**
Construct improvements to ±6.5 acres of working surfaces[b]	**30 September 2017**[c]
Construct improvements to ±6 acres of working surfaces[b]	**30 September 2018**[c]
Construct improvements to ca. ±7.3 acres of working surfaces[b]	**30 September 2019**[c]
Construct improvements to ±7.3 acres of working surfaces[b]	**30 September 2020**[c]
Construct improvements to ±3 acres of working surfaces[b]	**30 September 2021**[c]

[a] Source for drainage design: Brown and Caldwell. 2015

[b] Source for working surface design: EBA. "Evaluation of Working Pads for Recology Grover Environmental Products Compost Facility." May 9, 2014. Revised June 5, 2014.

[c] As shown on Attachment A

MONITORING AND REPORTING
RBVON will regularly inspect and maintain all containment, control, monitoring structures, and monitoring systems pursuant to the submitted ROWD and the Attachment B of General Order Monitoring and Reporting requirements. The frequency of inspections will be sufficient to prevent discharges of feedstocks, additives, amendments, compost (active, curing, or final product), or wastewater from creating, threatening to create, or contributing to conditions of contamination, pollution, or nuisance.

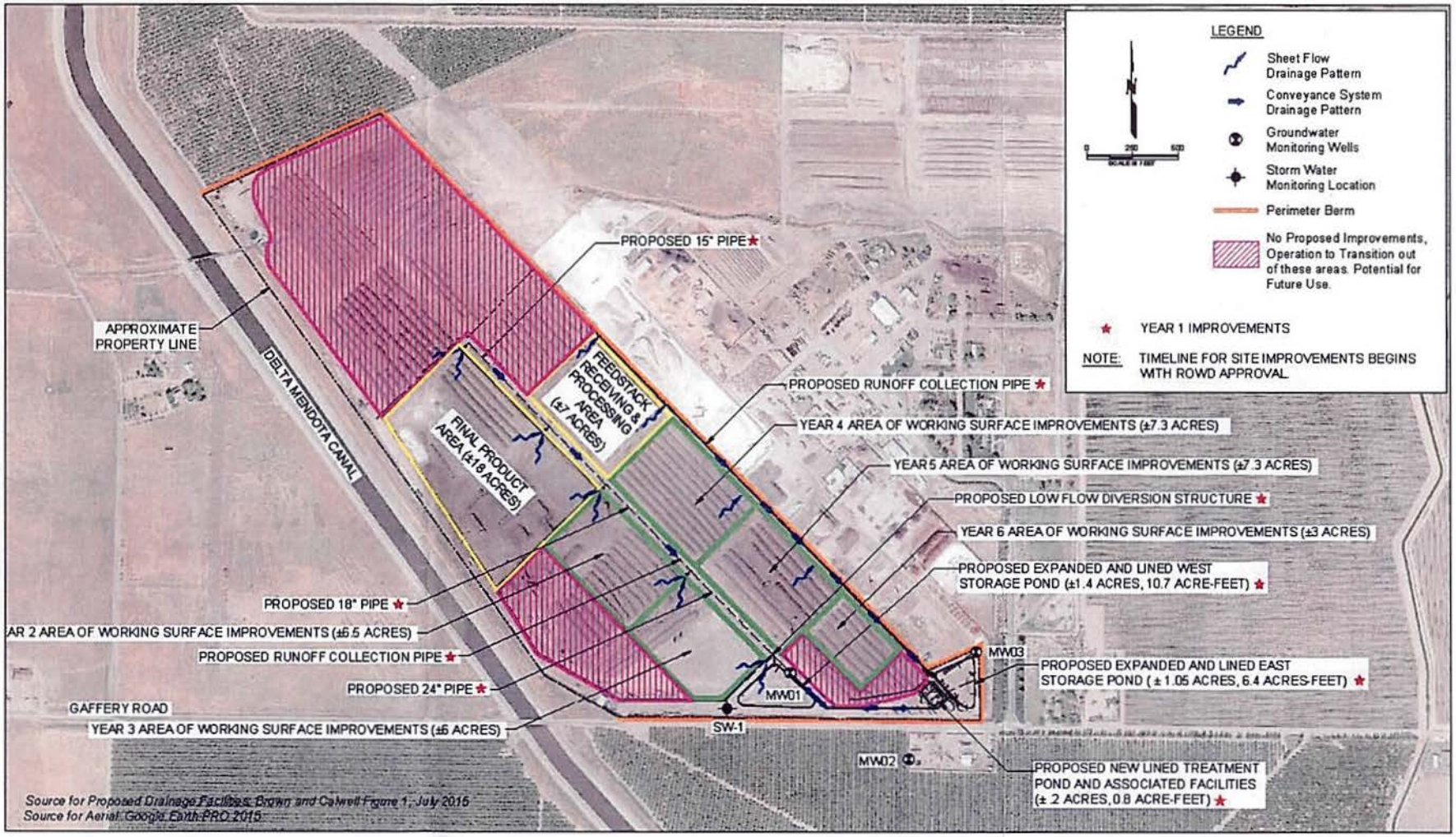
RBVON will conduct a monitoring program as prescribed in the Attachment B of General Order Monitoring and Reporting requirements. Sections that apply are A.1., A.2., A.5., and B. Site specific sampling points for storm/surface water (SW-1 and SW-2) and groundwater (MW-01, MW-02, and MW-03) are shown on the site map in Attachment A. Results of monitoring will be reported annually in the Annual Monitoring and Maintenance Report which will be submitted by **1 April** of each year as long as the Notice of Applicability is in effect.

SITE CLOSURE
At least 90 days prior to ceasing composting operations, RBVON shall submit a Site Closure Plan to the RWQCB for approval. The site restoration shall include work necessary to protect public health, safety, and the environment.

DISCUSSION
Staff's site visit and Recology's Technical Report reveal that composting operations on native surfaces are currently not in compliance with the requirements of the General Order and need significant improvements. Composting operations on unimproved surfaces without an appropriate waste water management system may have impacted and can continue to impact water quality at or near the site. Analyses of groundwater samples, which were collected after the groundwater wells were installed in November 2015, show nitrate concentrations as nitrogen (NO_3-N) that are already above the primary drinking water standard maximum contaminant level (MCL) of 10 mg/L (MW01: 14.0 mg/L, MW02: 15.3 mg/L, and MW03: 10.2 mg/L). Also, total coliform bacteria were detected in samples from wells MW01 and MW02.

RECOMMENDATION
Based on staff review of the ROWD and supporting documents, RBVON meets the minimum requirements of the General Order. The Notice of Applicability can be issued and stay in effect as long as the Discharger implements all operations in a manner that complies with the requirements of the General Order.

ATTACHMENT A



HDR

RECOLOGY BLOSSOM VALLEY NORTH SITE IMPROVEMENTS

DATE 1/13/2016

FIGURE C-1