

ATTACHMENT 2

Air Quality and GHG Model Runs

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**Highland Farms****Lake County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	140.56	1000sqft	3.23	140,560.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	67
Climate Zone	1			Operational Year	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site Plan

Construction Phase - 9 month construction timeline

Off-road Equipment - Application

Off-road Equipment -

Off-road Equipment - Application

Demolition -

Grading - Application

Vehicle Trips - Application

Stationary Sources - Emergency Generators and Fire Pumps -

Trips and VMT - PD

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	175.00
tblConstructionPhase	NumDays	8.00	25.00
tblGrading	AcresOfGrading	25.00	27.00
tblGrading	MaterialExported	0.00	60,000.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	33.50
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	7.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	2,555.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	3.00
tblVehicleTrips	ST_TR	6.42	0.37
tblVehicleTrips	SU_TR	5.09	0.37
tblVehicleTrips	WD_TR	3.93	0.37

2.0 Emissions Summary

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**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					
2022	0.1232	1.7563	0.9677	4.1300e-003	0.2326	0.0473	0.2799	0.0934	0.0443	0.1377	0.0000	383.8453	383.8453	0.0310	0.0410	396.8394
2023	0.1255	0.9482	1.1830	2.2600e-003	0.0507	0.0421	0.0928	0.0137	0.0396	0.0532	0.0000	199.3228	199.3228	0.0342	5.2000e-003	201.7270
Maximum	0.1255	1.7563	1.1830	4.1300e-003	0.2326	0.0473	0.2799	0.0934	0.0443	0.1377	0.0000	383.8453	383.8453	0.0342	0.0410	396.8394

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					
2022	0.1232	1.7563	0.9677	4.1300e-003	0.2326	0.0473	0.2799	0.0934	0.0443	0.1377	0.0000	383.8452	383.8452	0.0310	0.0410	396.8392
2023	0.1255	0.9482	1.1830	2.2600e-003	0.0507	0.0421	0.0928	0.0137	0.0396	0.0532	0.0000	199.3226	199.3226	0.0342	5.2000e-003	201.7269
Maximum	0.1255	1.7563	1.1830	4.1300e-003	0.2326	0.0473	0.2799	0.0934	0.0443	0.1377	0.0000	383.8452	383.8452	0.0342	0.0410	396.8392

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2022	11-30-2022	1.6316	1.6316
2	12-1-2022	2-28-2023	0.6067	0.6067
3	3-1-2023	5-31-2023	0.5973	0.5973
4	6-1-2023	8-31-2023	0.0907	0.0907
		Highest	1.6316	1.6316

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7120	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003
Energy	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	80.9845	80.9845	9.3800e-003	1.5500e-003	81.6823
Mobile	0.0581	0.0944	0.5412	8.2000e-004	0.0743	1.0000e-003	0.0753	0.0199	9.4000e-004	0.0209	0.0000	76.4759	76.4759	5.9400e-003	4.4600e-003	77.9538
Stationary	0.2076	1.0823	0.8354	1.0000e-003		0.0911	0.0911		0.0911	0.0911	0.0000	96.3208	96.3208	0.0135	0.0000	96.6584
Waste						0.0000	0.0000		0.0000	0.0000	35.3793	0.0000	35.3793	2.0909	0.0000	87.6507
Water						0.0000	0.0000		0.0000	0.0000	10.3122	16.2733	26.5854	1.0618	0.0253	60.6780
Total	0.9803	1.2007	1.3981	1.9600e-003	0.0743	0.0940	0.1683	0.0199	0.0939	0.1138	45.6915	270.0570	315.7484	3.1815	0.0313	404.6259

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7120	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003
Energy	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	80.9845	80.9845	9.3800e-003	1.5500e-003	81.6823
Mobile	0.0581	0.0944	0.5412	8.2000e-004	0.0743	1.0000e-003	0.0753	0.0199	9.4000e-004	0.0209	0.0000	76.4759	76.4759	5.9400e-003	4.4600e-003	77.9538
Stationary	0.2076	1.0823	0.8354	1.0000e-003		0.0911	0.0911		0.0911	0.0911	0.0000	96.3208	96.3208	0.0135	0.0000	96.6584
Waste						0.0000	0.0000		0.0000	0.0000	35.3793	0.0000	35.3793	2.0909	0.0000	87.6507
Water						0.0000	0.0000		0.0000	0.0000	10.3122	16.2733	26.5854	1.0618	0.0253	60.6780
Total	0.9803	1.2007	1.3981	1.9600e-003	0.0743	0.0940	0.1683	0.0199	0.0939	0.1138	45.6915	270.0570	315.7484	3.1815	0.0313	404.6259

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2022	9/7/2022	5	5	
2	Grading	Grading	9/8/2022	10/12/2022	5	25	

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3	Building Construction	Building Construction	10/13/2022	6/14/2023	5	175
---	-----------------------	-----------------------	------------	-----------	---	-----

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 27

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	7,500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	59.00	23.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2022

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					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9300e-003	0.0827	0.0492	1.0000e-004		4.0300e-003	4.0300e-003		3.7100e-003	3.7100e-003	0.0000	8.3599	8.3599	2.7000e-003	0.0000	8.4274
Total	7.9300e-003	0.0827	0.0492	1.0000e-004	0.0491	4.0300e-003	0.0532	0.0253	3.7100e-003	0.0290	0.0000	8.3599	8.3599	2.7000e-003	0.0000	8.4274

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

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	4.2000e-004	3.0000e-004	2.9500e-003	1.0000e-005	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4851	0.4851	2.0000e-005	2.0000e-005	0.4917
Total	4.2000e-004	3.0000e-004	2.9500e-003	1.0000e-005	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4851	0.4851	2.0000e-005	2.0000e-005	0.4917

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					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9300e-003	0.0827	0.0492	1.0000e-004		4.0300e-003	4.0300e-003		3.7100e-003	3.7100e-003	0.0000	8.3598	8.3598	2.7000e-003	0.0000	8.4274
Total	7.9300e-003	0.0827	0.0492	1.0000e-004	0.0491	4.0300e-003	0.0532	0.0253	3.7100e-003	0.0290	0.0000	8.3598	8.3598	2.7000e-003	0.0000	8.4274

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

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	4.2000e-004	3.0000e-004	2.9500e-003	1.0000e-005	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4851	0.4851	2.0000e-005	2.0000e-005	0.4917
Total	4.2000e-004	3.0000e-004	2.9500e-003	1.0000e-005	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4851	0.4851	2.0000e-005	2.0000e-005	0.4917

3.3 Grading - 2022

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					0.0930	0.0000	0.0930	0.0434	0.0000	0.0434	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2607	0.1909	3.7000e-004		0.0118	0.0118		0.0108	0.0108	0.0000	32.5685	32.5685	0.0105	0.0000	32.8318
Total	0.0244	0.2607	0.1909	3.7000e-004	0.0930	0.0118	0.1048	0.0434	0.0108	0.0543	0.0000	32.5685	32.5685	0.0105	0.0000	32.8318

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

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	0.0224	0.9090	0.1239	2.5300e-003	0.0631	7.8400e-003	0.0709	0.0173	7.5000e-003	0.0248	0.0000	243.3257	243.3257	9.6000e-004	0.0383	254.7475
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	1.7400e-003	1.2600e-003	0.0123	2.0000e-005	2.3000e-003	2.0000e-005	2.3200e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	2.0212	2.0212	9.0000e-005	8.0000e-005	2.0486
Total	0.0241	0.9102	0.1362	2.5500e-003	0.0654	7.8600e-003	0.0732	0.0180	7.5200e-003	0.0255	0.0000	245.3469	245.3469	1.0500e-003	0.0383	256.7960

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					0.0930	0.0000	0.0930	0.0434	0.0000	0.0434	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0244	0.2607	0.1909	3.7000e-004		0.0118	0.0118		0.0108	0.0108	0.0000	32.5684	32.5684	0.0105	0.0000	32.8318
Total	0.0244	0.2607	0.1909	3.7000e-004	0.0930	0.0118	0.1048	0.0434	0.0108	0.0543	0.0000	32.5684	32.5684	0.0105	0.0000	32.8318

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

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	0.0224	0.9090	0.1239	2.5300e-003	0.0631	7.8400e-003	0.0709	0.0173	7.5000e-003	0.0248	0.0000	243.3257	243.3257	9.6000e-004	0.0383	254.7475
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	1.7400e-003	1.2600e-003	0.0123	2.0000e-005	2.3000e-003	2.0000e-005	2.3200e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	2.0212	2.0212	9.0000e-005	8.0000e-005	2.0486
Total	0.0241	0.9102	0.1362	2.5500e-003	0.0654	7.8600e-003	0.0732	0.0180	7.5200e-003	0.0255	0.0000	245.3469	245.3469	1.0500e-003	0.0383	256.7960

3.4 Building Construction - 2022

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	0.0486	0.4451	0.4664	7.7000e-004		0.0231	0.0231		0.0217	0.0217	0.0000	66.0417	66.0417	0.0158	0.0000	66.4372
Total	0.0486	0.4451	0.4664	7.7000e-004		0.0231	0.0231		0.0217	0.0217	0.0000	66.0417	66.0417	0.0158	0.0000	66.4372

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-003	0.0460	0.0120	1.4000e-004	3.8800e-003	4.4000e-004	4.3200e-003	1.1200e-003	4.2000e-004	1.5500e-003	0.0000	12.9174	12.9174	9.0000e-005	1.8900e-003	13.4836
Worker	0.0156	0.0113	0.1101	2.0000e-004	0.0206	1.6000e-004	0.0208	5.4900e-003	1.5000e-004	5.6300e-003	0.0000	18.1260	18.1260	8.2000e-004	7.6000e-004	18.3716
Total	0.0177	0.0573	0.1221	3.4000e-004	0.0245	6.0000e-004	0.0251	6.6100e-003	5.7000e-004	7.1800e-003	0.0000	31.0433	31.0433	9.1000e-004	2.6500e-003	31.8552

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	0.0486	0.4451	0.4664	7.7000e-004		0.0231	0.0231		0.0217	0.0217	0.0000	66.0416	66.0416	0.0158	0.0000	66.4372
Total	0.0486	0.4451	0.4664	7.7000e-004		0.0231	0.0231		0.0217	0.0217	0.0000	66.0416	66.0416	0.0158	0.0000	66.4372

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-003	0.0460	0.0120	1.4000e-004	3.8800e-003	4.4000e-004	4.3200e-003	1.1200e-003	4.2000e-004	1.5500e-003	0.0000	12.9174	12.9174	9.0000e-005	1.8900e-003	13.4836
Worker	0.0156	0.0113	0.1101	2.0000e-004	0.0206	1.6000e-004	0.0208	5.4900e-003	1.5000e-004	5.6300e-003	0.0000	18.1260	18.1260	8.2000e-004	7.6000e-004	18.3716
Total	0.0177	0.0573	0.1221	3.4000e-004	0.0245	6.0000e-004	0.0251	6.6100e-003	5.7000e-004	7.1800e-003	0.0000	31.0433	31.0433	9.1000e-004	2.6500e-003	31.8552

3.4 Building Construction - 2023

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	0.0928	0.8487	0.9584	1.5900e-003		0.0413	0.0413		0.0389	0.0389	0.0000	136.7648	136.7648	0.0325	0.0000	137.5782
Total	0.0928	0.8487	0.9584	1.5900e-003		0.0413	0.0413		0.0389	0.0389	0.0000	136.7648	136.7648	0.0325	0.0000	137.5782

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5700e-003	0.0789	0.0206	2.7000e-004	8.0300e-003	4.6000e-004	8.4800e-003	2.3200e-003	4.4000e-004	2.7600e-003	0.0000	25.9301	25.9301	1.1000e-004	3.7900e-003	27.0611
Worker	0.0301	0.0206	0.2040	3.9000e-004	0.0427	3.1000e-004	0.0430	0.0114	2.8000e-004	0.0116	0.0000	36.6279	36.6279	1.5100e-003	1.4200e-003	37.0878
Total	0.0327	0.0995	0.2246	6.6000e-004	0.0507	7.7000e-004	0.0515	0.0137	7.2000e-004	0.0144	0.0000	62.5580	62.5580	1.6200e-003	5.2100e-003	64.1489

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	0.0928	0.8487	0.9584	1.5900e-003		0.0413	0.0413		0.0389	0.0389	0.0000	136.7646	136.7646	0.0325	0.0000	137.5780
Total	0.0928	0.8487	0.9584	1.5900e-003		0.0413	0.0413		0.0389	0.0389	0.0000	136.7646	136.7646	0.0325	0.0000	137.5780

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5700e-003	0.0789	0.0206	2.7000e-004	8.0300e-003	4.6000e-004	8.4800e-003	2.3200e-003	4.4000e-004	2.7600e-003	0.0000	25.9301	25.9301	1.1000e-004	3.7900e-003	27.0611
Worker	0.0301	0.0206	0.2040	3.9000e-004	0.0427	3.1000e-004	0.0430	0.0114	2.8000e-004	0.0116	0.0000	36.6279	36.6279	1.5100e-003	1.4200e-003	37.0878
Total	0.0327	0.0995	0.2246	6.6000e-004	0.0507	7.7000e-004	0.0515	0.0137	7.2000e-004	0.0144	0.0000	62.5580	62.5580	1.6200e-003	5.2100e-003	64.1489

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0581	0.0944	0.5412	8.2000e-004	0.0743	1.0000e-003	0.0753	0.0199	9.4000e-004	0.0209	0.0000	76.4759	76.4759	5.9400e-003	4.4600e-003	77.9538
Unmitigated	0.0581	0.0944	0.5412	8.2000e-004	0.0743	1.0000e-003	0.0753	0.0199	9.4000e-004	0.0209	0.0000	76.4759	76.4759	5.9400e-003	4.4600e-003	77.9538

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	52.01	52.01	52.01	200,928	200,928
Total	52.01	52.01	52.01	200,928	200,928

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.456449	0.066493	0.191214	0.159357	0.054432	0.010008	0.008352	0.006045	0.000425	0.000000	0.038112	0.001232	0.007880

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	54.8817	54.8817	8.8800e-003	1.0800e-003	55.4244
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	54.8817	54.8817	8.8800e-003	1.0800e-003	55.4244
NaturalGas Mitigated	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.1028	26.1028	5.0000e-004	4.8000e-004	26.2580
NaturalGas Unmitigated	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.1028	26.1028	5.0000e-004	4.8000e-004	26.2580

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	489149	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.1028	26.1028	5.0000e-004	4.8000e-004	26.2580
Total		2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.1028	26.1028	5.0000e-004	4.8000e-004	26.2580

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	489149	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.1028	26.1028	5.0000e-004	4.8000e-004	26.2580
Total		2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.1028	26.1028	5.0000e-004	4.8000e-004	26.2580

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	593163	54.8817	8.8800e-003	1.0800e-003	55.4244
Total		54.8817	8.8800e-003	1.0800e-003	55.4244

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	593163	54.8817	8.8800e-003	1.0800e-003	55.4244
Total		54.8817	8.8800e-003	1.0800e-003	55.4244

6.0 Area Detail**6.1 Mitigation Measures Area**

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7120	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003
Unmitigated	0.7120	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5490					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003
Total	0.7120	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1629					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5490					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003
Total	0.7120	1.0000e-005	1.2900e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.5100e-003	2.5100e-003	1.0000e-005	0.0000	2.6800e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.5854	1.0618	0.0253	60.6780
Unmitigated	26.5854	1.0618	0.0253	60.6780

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	32.5045 / 0	26.5854	1.0618	0.0253	60.6780
Total		26.5854	1.0618	0.0253	60.6780

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	32.5045 / 0	26.5854	1.0618	0.0253	60.6780
Total		26.5854	1.0618	0.0253	60.6780

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	35.3793	2.0909	0.0000	87.6507
Unmitigated	35.3793	2.0909	0.0000	87.6507

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	174.29	35.3793	2.0909	0.0000	87.6507
Total		35.3793	2.0909	0.0000	87.6507

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	174.29	35.3793	2.0909	0.0000	87.6507
Total		35.3793	2.0909	0.0000	87.6507

9.0 Operational Offroad

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

Highland Farms - Lake County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	3	7	2555	33.5	0.73	Diesel

Boilers

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

User Defined Equipment

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

10.1 Stationary Sources**Unmitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (25 - 50 HP)	0.2076	1.0823	0.8354	1.0000e-003		0.0911	0.0911		0.0911	0.0911	0.0000	96.3208	96.3208	0.0135	0.0000	96.6584
Total	0.2076	1.0823	0.8354	1.0000e-003		0.0911	0.0911		0.0911	0.0911	0.0000	96.3208	96.3208	0.0135	0.0000	96.6584

11.0 Vegetation