
APPENDICES

APPENDIX A – AIR QUALITY AND GHG MODELING RESULTS

North Livermore Avenue Chick-fil-A - Alameda County, Annual

**North Livermore Avenue Chick-fil-A
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	24.20	1000sqft	0.56	24,200.00	0
Parking Lot	42.00	Space	0.38	16,800.00	0
Fast Food Restaurant with Drive Thru	4.74	1000sqft	0.11	4,737.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	4			Operational Year	2022

Utility Company

CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0
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1.3 User Entered Comments & Non-Default Data

North Livermore Avenue Chick-fil-A - Alameda County, Annual

Project Characteristics -

Land Use - Building Size, Parking Lot, Other Paved Area from Site Plan

Construction Phase -

Off-road Equipment - Bore/drill rig for caissons for pier wall.

Off-road Equipment -

Grading - Export per project applicant.

Vehicle Trips - Daily trip generation rate and trip % from TIA (Hexagon, 2020)

Sunday trip = 0; From the Chick-fil-A corporate website and project application. All stores are closed on Sundays.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation from BAAQMD-recommended BCMs required by City of Livermore.

Water And Wastewater - Indoor water use assumed equal to wastewater generation data provided by applicant. Outdoor use based on applicant data for total water use.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblGrading	MaterialExported	0.00	1,400.00
tblLandUse	LandUseSquareFeet	4,740.00	4,737.00
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblVehicleTrips	DV_TP	21.00	25.00
tblVehicleTrips	PR_TP	29.00	25.00
tblVehicleTrips	ST_TR	722.03	471.00
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	WD_TR	496.12	471.00
tblWater	IndoorWaterUseRate	1,438,749.80	547,500.00
tblWater	OutdoorWaterUseRate	91,835.09	73,000.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	0.5476	0.5476
2	4-1-2021	6-30-2021	0.5302	0.5302
3	7-1-2021	9-30-2021	0.5360	0.5360
		Highest	0.5476	0.5476

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	0.0245	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Energy	5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611
Mobile	0.3977	2.4301	3.0616	9.2900e-003	0.6113	8.9200e-003	0.6202	0.1643	8.3700e-003	0.1727	0.0000	858.9733	858.9733	0.0552	0.0000	860.3541
Waste						0.0000	0.0000		0.0000	0.0000	11.0833	0.0000	11.0833	0.6550	0.0000	27.4584
Water						0.0000	0.0000		0.0000	0.0000	0.1737	0.0000	0.1737	0.0178	4.2000e-004	0.7452
Total	0.4275	2.4784	3.1028	9.5800e-003	0.6113	0.0126	0.6239	0.1643	0.0120	0.1764	11.2570	911.5233	922.7804	0.7291	1.3800e-003	941.4202

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0245	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Energy	5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611
Mobile	0.3977	2.4301	3.0616	9.2900e-003	0.6113	8.9200e-003	0.6202	0.1643	8.3700e-003	0.1727	0.0000	858.9733	858.9733	0.0552	0.0000	860.3541
Waste						0.0000	0.0000		0.0000	0.0000	11.0833	0.0000	11.0833	0.6550	0.0000	27.4584
Water						0.0000	0.0000		0.0000	0.0000	0.1737	0.0000	0.1737	0.0178	4.2000e-004	0.7452
Total	0.4275	2.4784	3.1028	9.5800e-003	0.6113	0.0126	0.6239	0.1643	0.0120	0.1764	11.2570	911.5233	922.7804	0.7291	1.3800e-003	941.4202

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

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/4/2021	5	2	
2	Grading	Grading	1/5/2021	1/8/2021	5	4	
3	Building Construction	Building Construction	1/9/2021	10/15/2021	5	200	
4	Paving	Paving	10/16/2021	10/29/2021	5	10	
5	Architectural Coating	Architectural Coating	10/30/2021	11/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,106; Non-Residential Outdoor: 2,369; Striped Parking Area: 2,460 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	4.00	221	0.50
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	175.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	19.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5600e-003	0.0174	7.5600e-003	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241
Total	1.5600e-003	0.0174	7.5600e-003	2.0000e-005	5.8000e-003	7.7000e-004	6.5700e-003	2.9500e-003	7.0000e-004	3.6500e-003	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241

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3.2 Site Preparation - 2021

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	3.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0543	0.0543	0.0000	0.0000	0.0543
Total	3.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0543	0.0543	0.0000	0.0000	0.0543

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					2.6100e-003	0.0000	2.6100e-003	1.3300e-003	0.0000	1.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5600e-003	0.0174	7.5600e-003	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241
Total	1.5600e-003	0.0174	7.5600e-003	2.0000e-005	2.6100e-003	7.7000e-004	3.3800e-003	1.3300e-003	7.0000e-004	2.0300e-003	0.0000	1.5118	1.5118	4.9000e-004	0.0000	1.5241

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3.2 Site Preparation - 2021

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	3.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0543	0.0543	0.0000	0.0000	0.0543
Total	3.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0543	0.0543	0.0000	0.0000	0.0543

3.3 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					9.9100e-003	0.0000	9.9100e-003	5.0600e-003	0.0000	5.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8300e-003	0.0317	0.0147	4.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	3.3041	3.3041	1.0700e-003	0.0000	3.3309
Total	2.8300e-003	0.0317	0.0147	4.0000e-005	9.9100e-003	1.3700e-003	0.0113	5.0600e-003	1.2600e-003	6.3200e-003	0.0000	3.3041	3.3041	1.0700e-003	0.0000	3.3309

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3.3 Grading - 2021

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	7.0000e-004	0.0236	4.3800e-003	7.0000e-005	1.4800e-003	7.0000e-005	1.5500e-003	4.1000e-004	7.0000e-005	4.8000e-004	0.0000	6.6154	6.6154	3.3000e-004	0.0000	6.6236
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	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358
Total	7.6000e-004	0.0236	4.8600e-003	7.0000e-005	1.6400e-003	7.0000e-005	1.7100e-003	4.5000e-004	7.0000e-005	5.2000e-004	0.0000	6.7511	6.7511	3.3000e-004	0.0000	6.7593

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					4.4600e-003	0.0000	4.4600e-003	2.2800e-003	0.0000	2.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8300e-003	0.0317	0.0147	4.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	3.3041	3.3041	1.0700e-003	0.0000	3.3309
Total	2.8300e-003	0.0317	0.0147	4.0000e-005	4.4600e-003	1.3700e-003	5.8300e-003	2.2800e-003	1.2600e-003	3.5400e-003	0.0000	3.3041	3.3041	1.0700e-003	0.0000	3.3309

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3.3 Grading - 2021

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	7.0000e-004	0.0236	4.3800e-003	7.0000e-005	1.4800e-003	7.0000e-005	1.5500e-003	4.1000e-004	7.0000e-005	4.8000e-004	0.0000	6.6154	6.6154	3.3000e-004	0.0000	6.6236
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	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358
Total	7.6000e-004	0.0236	4.8600e-003	7.0000e-005	1.6400e-003	7.0000e-005	1.7100e-003	4.5000e-004	7.0000e-005	5.2000e-004	0.0000	6.7511	6.7511	3.3000e-004	0.0000	6.7593

3.4 Building Construction - 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	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5476	181.5476	0.0324	0.0000	182.3579
Total	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5476	181.5476	0.0324	0.0000	182.3579

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3.4 Building Construction - 2021

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	2.1700e-003	0.0749	0.0159	1.9000e-004	4.6000e-003	1.6000e-004	4.7500e-003	1.3300e-003	1.5000e-004	1.4800e-003	0.0000	18.3379	18.3379	1.0100e-003	0.0000	18.3631
Worker	6.0700e-003	4.3200e-003	0.0453	1.4000e-004	0.0150	1.0000e-004	0.0151	4.0000e-003	9.0000e-005	4.0900e-003	0.0000	12.8910	12.8910	3.1000e-004	0.0000	12.8987
Total	8.2400e-003	0.0792	0.0612	3.3000e-004	0.0196	2.6000e-004	0.0199	5.3300e-003	2.4000e-004	5.5700e-003	0.0000	31.2289	31.2289	1.3200e-003	0.0000	31.2618

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	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5474	181.5474	0.0324	0.0000	182.3577
Total	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5474	181.5474	0.0324	0.0000	182.3577

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3.4 Building Construction - 2021

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	2.1700e-003	0.0749	0.0159	1.9000e-004	4.6000e-003	1.6000e-004	4.7500e-003	1.3300e-003	1.5000e-004	1.4800e-003	0.0000	18.3379	18.3379	1.0100e-003	0.0000	18.3631
Worker	6.0700e-003	4.3200e-003	0.0453	1.4000e-004	0.0150	1.0000e-004	0.0151	4.0000e-003	9.0000e-005	4.0900e-003	0.0000	12.8910	12.8910	3.1000e-004	0.0000	12.8987
Total	8.2400e-003	0.0792	0.0612	3.3000e-004	0.0196	2.6000e-004	0.0199	5.3300e-003	2.4000e-004	5.5700e-003	0.0000	31.2289	31.2289	1.3200e-003	0.0000	31.2618

3.5 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	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	1.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.1000e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291

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3.5 Paving - 2021

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	2.1000e-004	1.5000e-004	1.5500e-003	0.0000	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4410	0.4410	1.0000e-005	0.0000	0.4413
Total	2.1000e-004	1.5000e-004	1.5500e-003	0.0000	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4410	0.4410	1.0000e-005	0.0000	0.4413

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	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	1.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.1000e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291

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3.5 Paving - 2021

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	2.1000e-004	1.5000e-004	1.5500e-003	0.0000	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4410	0.4410	1.0000e-005	0.0000	0.4413
Total	2.1000e-004	1.5000e-004	1.5500e-003	0.0000	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4410	0.4410	1.0000e-005	0.0000	0.4413

3.6 Architectural Coating - 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					
Archit. Coating	0.0333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	0.0343	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788

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3.6 Architectural Coating - 2021

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	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358
Total	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358

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					
Archit. Coating	0.0333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	0.0343	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788

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3.6 Architectural Coating - 2021

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	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358
Total	6.0000e-005	5.0000e-005	4.8000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1357	0.1357	0.0000	0.0000	0.1358

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3977	2.4301	3.0616	9.2900e-003	0.6113	8.9200e-003	0.6202	0.1643	8.3700e-003	0.1727	0.0000	858.9733	858.9733	0.0552	0.0000	860.3541
Unmitigated	0.3977	2.4301	3.0616	9.2900e-003	0.6113	8.9200e-003	0.6202	0.1643	8.3700e-003	0.1727	0.0000	858.9733	858.9733	0.0552	0.0000	860.3541

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	2,232.54	2,232.54	0.00	1,634,373	1,634,373
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	2,232.54	2,232.54	0.00	1,634,373	1,634,373

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	25	25	50
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Parking Lot	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611
NaturalGas Unmitigated	5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611

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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					
Fast Food Restaurant with Drive Thru	984728	5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611

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					
Fast Food Restaurant with Drive Thru	984728	5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		5.3100e-003	0.0483	0.0406	2.9000e-004		3.6700e-003	3.6700e-003		3.6700e-003	3.6700e-003	0.0000	52.5488	52.5488	1.0100e-003	9.6000e-004	52.8611

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	154995	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5880	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	154995	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5880	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0245	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Unmitigated	0.0245	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.3300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0212					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Total	0.0245	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003

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	3.3300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0212					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003
Total	0.0245	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3500e-003

7.0 Water Detail

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7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.1737	0.0178	4.2000e-004	0.7452
Unmitigated	0.1737	0.0178	4.2000e-004	0.7452

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.5475 / 0.073	0.1737	0.0178	4.2000e-004	0.7452
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.1737	0.0178	4.2000e-004	0.7452

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.5475 / 0.073	0.1737	0.0178	4.2000e-004	0.7452
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.1737	0.0178	4.2000e-004	0.7452

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.0833	0.6550	0.0000	27.4584
Unmitigated	11.0833	0.6550	0.0000	27.4584

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	54.6	11.0833	0.6550	0.0000	27.4584
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		11.0833	0.6550	0.0000	27.4584

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	54.6	11.0833	0.6550	0.0000	27.4584
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		11.0833	0.6550	0.0000	27.4584

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

North Livermore Avenue Chick-fil-A - Alameda County, Summer

**North Livermore Avenue Chick-fil-A
Alameda County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	24.20	1000sqft	0.56	24,200.00	0
Parking Lot	42.00	Space	0.38	16,800.00	0
Fast Food Restaurant with Drive Thru	4.74	1000sqft	0.11	4,737.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	4			Operational Year	2022

Utility Company

CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0
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1.3 User Entered Comments & Non-Default Data

North Livermore Avenue Chick-fil-A - Alameda County, Summer

Project Characteristics -

Land Use - Building Size, Parking Lot, Other Paved Area from Site Plan

Construction Phase -

Off-road Equipment - Bore/drill rig for caissons for pier wall.

Off-road Equipment -

Grading - Export per project applicant.

Vehicle Trips - Daily trip generation rate and trip % from TIA (Hexagon, 2020)

Sunday trip = 0; From the Chick-fil-A corporate website and project application. All stores are closed on Sundays.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation from BAAQMD-recommended BCMs required by City of Livermore.

Water And Wastewater - Indoor water use assumed equal to wastewater generation data provided by applicant. Outdoor use based on applicant data for total water use.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblGrading	MaterialExported	0.00	1,400.00
tblLandUse	LandUseSquareFeet	4,740.00	4,737.00
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblVehicleTrips	DV_TP	21.00	25.00
tblVehicleTrips	PR_TP	29.00	25.00
tblVehicleTrips	ST_TR	722.03	471.00
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	WD_TR	496.12	471.00
tblWater	IndoorWaterUseRate	1,438,749.80	547,500.00
tblWater	OutdoorWaterUseRate	91,835.09	73,000.00

2.0 Emissions Summary

North Livermore Avenue Chick-fil-A - Alameda County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Energy	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Mobile	3.0172	15.4410	18.7236	0.0627	4.0680	0.0567	4.1247	1.0899	0.0532	1.1432		6,396.1149	6,396.1149	0.3754		6,405.5002
Total	3.1810	15.7056	18.9530	0.0643	4.0680	0.0769	4.1448	1.0899	0.0733	1.1633		6,713.5285	6,713.5285	0.3815	5.8200e-003	6,724.8010

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Energy	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Mobile	3.0172	15.4410	18.7236	0.0627	4.0680	0.0567	4.1247	1.0899	0.0532	1.1432		6,396.1149	6,396.1149	0.3754		6,405.5002
Total	3.1810	15.7056	18.9530	0.0643	4.0680	0.0769	4.1448	1.0899	0.0733	1.1633		6,713.5285	6,713.5285	0.3815	5.8200e-003	6,724.8010

North Livermore Avenue Chick-fil-A - Alameda County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	1/1/2021	1/4/2021	5	2	
2	Grading	Grading	1/5/2021	1/8/2021	5	4	
3	Building Construction	Building Construction	1/9/2021	10/15/2021	5	200	
4	Paving	Paving	10/16/2021	10/29/2021	5	10	
5	Architectural Coating	Architectural Coating	10/30/2021	11/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,106; Non-Residential Outdoor: 2,369; Striped Parking Area: 2,460 (Architectural Coating – sqft)

OffRoad Equipment

North Livermore Avenue Chick-fil-A - Alameda County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	4.00	221	0.50
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

North Livermore Avenue Chick-fil-A - Alameda County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	175.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	19.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
Total	1.5558	17.4203	7.5605	0.0172	5.7996	0.7654	6.5650	2.9537	0.7041	3.6578		1,666.5174	1,666.5174	0.5390		1,679.9920

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.2 Site Preparation - 2021

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	0.0270	0.0161	0.2084	6.5000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		64.5102	64.5102	1.5300e-003		64.5485
Total	0.0270	0.0161	0.2084	6.5000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		64.5102	64.5102	1.5300e-003		64.5485

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					2.6098	0.0000	2.6098	1.3292	0.0000	1.3292			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
Total	1.5558	17.4203	7.5605	0.0172	2.6098	0.7654	3.3752	1.3292	0.7041	2.0333	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.2 Site Preparation - 2021

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	0.0270	0.0161	0.2084	6.5000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		64.5102	64.5102	1.5300e-003		64.5485
Total	0.0270	0.0161	0.2084	6.5000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		64.5102	64.5102	1.5300e-003		64.5485

3.3 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					4.9538	0.0000	4.9538	2.5316	0.0000	2.5316			0.0000			0.0000
Off-Road	1.4175	15.8421	7.3684	0.0188		0.6837	0.6837		0.6290	0.6290		1,821.0960	1,821.0960	0.5890		1,835.8205
Total	1.4175	15.8421	7.3684	0.0188	4.9538	0.6837	5.6376	2.5316	0.6290	3.1606		1,821.0960	1,821.0960	0.5890		1,835.8205

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.3 Grading - 2021

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	0.3465	11.5745	2.1124	0.0346	0.7660	0.0358	0.8018	0.2100	0.0343	0.2443		3,674.6778	3,674.6778	0.1752		3,679.0582
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	0.0338	0.0201	0.2605	8.1000e-004	0.0822	5.3000e-004	0.0827	0.0218	4.9000e-004	0.0223		80.6378	80.6378	1.9200e-003		80.6856
Total	0.3803	11.5946	2.3729	0.0354	0.8481	0.0363	0.8844	0.2318	0.0348	0.2666		3,755.3155	3,755.3155	0.1771		3,759.7439

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					2.2292	0.0000	2.2292	1.1392	0.0000	1.1392			0.0000			0.0000
Off-Road	1.4175	15.8421	7.3684	0.0188		0.6837	0.6837		0.6290	0.6290	0.0000	1,821.0960	1,821.0960	0.5890		1,835.8205
Total	1.4175	15.8421	7.3684	0.0188	2.2292	0.6837	2.9130	1.1392	0.6290	1.7683	0.0000	1,821.0960	1,821.0960	0.5890		1,835.8205

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.3 Grading - 2021

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	0.3465	11.5745	2.1124	0.0346	0.7660	0.0358	0.8018	0.2100	0.0343	0.2443		3,674.6778	3,674.6778	0.1752		3,679.0582
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	0.0338	0.0201	0.2605	8.1000e-004	0.0822	5.3000e-004	0.0827	0.0218	4.9000e-004	0.0223		80.6378	80.6378	1.9200e-003		80.6856
Total	0.3803	11.5946	2.3729	0.0354	0.8481	0.0363	0.8844	0.2318	0.0348	0.2666		3,755.3155	3,755.3155	0.1771		3,759.7439

3.4 Building Construction - 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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.4 Building Construction - 2021

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	0.0212	0.7414	0.1473	1.9400e-003	0.0474	1.5400e-003	0.0490	0.0137	1.4700e-003	0.0151		204.5053	204.5053	0.0106		204.7708
Worker	0.0642	0.0382	0.4949	1.5400e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		153.2117	153.2117	3.6400e-003		153.3027
Total	0.0854	0.7796	0.6423	3.4800e-003	0.2035	2.5500e-003	0.2061	0.0551	2.4000e-003	0.0575		357.7170	357.7170	0.0143		358.0735

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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.4 Building Construction - 2021

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	0.0212	0.7414	0.1473	1.9400e-003	0.0474	1.5400e-003	0.0490	0.0137	1.4700e-003	0.0151		204.5053	204.5053	0.0106		204.7708
Worker	0.0642	0.0382	0.4949	1.5400e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		153.2117	153.2117	3.6400e-003		153.3027
Total	0.0854	0.7796	0.6423	3.4800e-003	0.2035	2.5500e-003	0.2061	0.0551	2.4000e-003	0.0575		357.7170	357.7170	0.0143		358.0735

3.5 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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0202	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.5 Paving - 2021

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	0.0439	0.0261	0.3386	1.0500e-003	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		104.8291	104.8291	2.4900e-003		104.8913
Total	0.0439	0.0261	0.3386	1.0500e-003	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		104.8291	104.8291	2.4900e-003		104.8913

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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0202	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.5 Paving - 2021

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	0.0439	0.0261	0.3386	1.0500e-003	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		104.8291	104.8291	2.4900e-003		104.8913
Total	0.0439	0.0261	0.3386	1.0500e-003	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		104.8291	104.8291	2.4900e-003		104.8913

3.6 Architectural Coating - 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					
Archit. Coating	6.6510					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	6.8699	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.6 Architectural Coating - 2021

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	0.0135	8.0300e-003	0.1042	3.2000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		32.2551	32.2551	7.7000e-004		32.2743
Total	0.0135	8.0300e-003	0.1042	3.2000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		32.2551	32.2551	7.7000e-004		32.2743

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					
Archit. Coating	6.6510					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	6.8699	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

North Livermore Avenue Chick-fil-A - Alameda County, Summer

3.6 Architectural Coating - 2021

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	0.0135	8.0300e-003	0.1042	3.2000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		32.2551	32.2551	7.7000e-004		32.2743
Total	0.0135	8.0300e-003	0.1042	3.2000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		32.2551	32.2551	7.7000e-004		32.2743

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

North Livermore Avenue Chick-fil-A - Alameda County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0172	15.4410	18.7236	0.0627	4.0680	0.0567	4.1247	1.0899	0.0532	1.1432		6,396.1149	6,396.1149	0.3754		6,405.5002
Unmitigated	3.0172	15.4410	18.7236	0.0627	4.0680	0.0567	4.1247	1.0899	0.0532	1.1432		6,396.1149	6,396.1149	0.3754		6,405.5002

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	2,232.54	2,232.54	0.00	1,634,373	1,634,373
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	2,232.54	2,232.54	0.00	1,634,373	1,634,373

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	25	25	50
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

North Livermore Avenue Chick-fil-A - Alameda County, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Parking Lot	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

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	lb/day										lb/day					
NaturalGas Mitigated	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
NaturalGas Unmitigated	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842

North Livermore Avenue Chick-fil-A - Alameda County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant with Drive Thru	2697.88	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant with Drive Thru	2.69788	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842

North Livermore Avenue Chick-fil-A - Alameda County, Summer

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Unmitigated	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166

North Livermore Avenue Chick-fil-A - Alameda County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.7000e-004	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Total	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.7000e-004	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Total	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166

7.0 Water Detail

North Livermore Avenue Chick-fil-A - Alameda County, Summer

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

North Livermore Avenue Chick-fil-A - Alameda County, Winter

**North Livermore Avenue Chick-fil-A
Alameda County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	24.20	1000sqft	0.56	24,200.00	0
Parking Lot	42.00	Space	0.38	16,800.00	0
Fast Food Restaurant with Drive Thru	4.74	1000sqft	0.11	4,737.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	4			Operational Year	2022

Utility Company

CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0
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1.3 User Entered Comments & Non-Default Data

North Livermore Avenue Chick-fil-A - Alameda County, Winter

Project Characteristics -

Land Use - Building Size, Parking Lot, Other Paved Area from Site Plan

Construction Phase -

Off-road Equipment - Bore/drill rig for caissons for pier wall.

Off-road Equipment -

Grading - Export per project applicant.

Vehicle Trips - Daily trip generation rate and trip % from TIA (Hexagon, 2020)

Sunday trip = 0; From the Chick-fil-A corporate website and project application. All stores are closed on Sundays.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation from BAAQMD-recommended BCMs required by City of Livermore.

Water And Wastewater - Indoor water use assumed equal to wastewater generation data provided by applicant. Outdoor use based on applicant data for total water use.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblGrading	MaterialExported	0.00	1,400.00
tblLandUse	LandUseSquareFeet	4,740.00	4,737.00
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblVehicleTrips	DV_TP	21.00	25.00
tblVehicleTrips	PR_TP	29.00	25.00
tblVehicleTrips	ST_TR	722.03	471.00
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	WD_TR	496.12	471.00
tblWater	IndoorWaterUseRate	1,438,749.80	547,500.00
tblWater	OutdoorWaterUseRate	91,835.09	73,000.00

2.0 Emissions Summary

North Livermore Avenue Chick-fil-A - Alameda County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Energy	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Mobile	2.5130	15.5829	21.3950	0.0585	4.0680	0.0580	4.1259	1.0899	0.0544	1.1443		5,959.1990	5,959.1990	0.4132		5,969.5282
Total	2.6769	15.8474	21.6244	0.0601	4.0680	0.0781	4.1461	1.0899	0.0745	1.1645		6,276.6126	6,276.6126	0.4193	5.8200e-003	6,288.8290

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Energy	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Mobile	2.5130	15.5829	21.3950	0.0585	4.0680	0.0580	4.1259	1.0899	0.0544	1.1443		5,959.1990	5,959.1990	0.4132		5,969.5282
Total	2.6769	15.8474	21.6244	0.0601	4.0680	0.0781	4.1461	1.0899	0.0745	1.1645		6,276.6126	6,276.6126	0.4193	5.8200e-003	6,288.8290

North Livermore Avenue Chick-fil-A - Alameda County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	1/1/2021	1/4/2021	5	2	
2	Grading	Grading	1/5/2021	1/8/2021	5	4	
3	Building Construction	Building Construction	1/9/2021	10/15/2021	5	200	
4	Paving	Paving	10/16/2021	10/29/2021	5	10	
5	Architectural Coating	Architectural Coating	10/30/2021	11/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.94

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,106; Non-Residential Outdoor: 2,369; Striped Parking Area: 2,460 (Architectural Coating – sqft)

OffRoad Equipment

North Livermore Avenue Chick-fil-A - Alameda County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	4.00	221	0.50
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

North Livermore Avenue Chick-fil-A - Alameda County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	175.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	19.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
Total	1.5558	17.4203	7.5605	0.0172	5.7996	0.7654	6.5650	2.9537	0.7041	3.6578		1,666.5174	1,666.5174	0.5390		1,679.9920

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.2 Site Preparation - 2021

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	0.0282	0.0200	0.1961	6.0000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		59.3634	59.3634	1.4300e-003		59.3992
Total	0.0282	0.0200	0.1961	6.0000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		59.3634	59.3634	1.4300e-003		59.3992

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					2.6098	0.0000	2.6098	1.3292	0.0000	1.3292			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
Total	1.5558	17.4203	7.5605	0.0172	2.6098	0.7654	3.3752	1.3292	0.7041	2.0333	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.2 Site Preparation - 2021

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	0.0282	0.0200	0.1961	6.0000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		59.3634	59.3634	1.4300e-003		59.3992
Total	0.0282	0.0200	0.1961	6.0000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		59.3634	59.3634	1.4300e-003		59.3992

3.3 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					4.9538	0.0000	4.9538	2.5316	0.0000	2.5316			0.0000			0.0000
Off-Road	1.4175	15.8421	7.3684	0.0188		0.6837	0.6837		0.6290	0.6290		1,821.0960	1,821.0960	0.5890		1,835.8205
Total	1.4175	15.8421	7.3684	0.0188	4.9538	0.6837	5.6376	2.5316	0.6290	3.1606		1,821.0960	1,821.0960	0.5890		1,835.8205

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.3 Grading - 2021

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	0.3561	11.8332	2.2952	0.0339	0.7660	0.0364	0.8023	0.2100	0.0348	0.2448		3,606.620 2	3,606.620 2	0.1881		3,611.3216
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	0.0352	0.0250	0.2451	7.4000e-004	0.0822	5.3000e-004	0.0827	0.0218	4.9000e-004	0.0223		74.2042	74.2042	1.7900e-003		74.2489
Total	0.3913	11.8582	2.5403	0.0347	0.8481	0.0369	0.8850	0.2318	0.0353	0.2671		3,680.824 4	3,680.824 4	0.1899		3,685.570 5

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					2.2292	0.0000	2.2292	1.1392	0.0000	1.1392			0.0000			0.0000
Off-Road	1.4175	15.8421	7.3684	0.0188		0.6837	0.6837		0.6290	0.6290	0.0000	1,821.096 0	1,821.096 0	0.5890		1,835.820 5
Total	1.4175	15.8421	7.3684	0.0188	2.2292	0.6837	2.9130	1.1392	0.6290	1.7683	0.0000	1,821.096 0	1,821.096 0	0.5890		1,835.820 5

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.3 Grading - 2021

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	0.3561	11.8332	2.2952	0.0339	0.7660	0.0364	0.8023	0.2100	0.0348	0.2448		3,606.620 2	3,606.620 2	0.1881		3,611.3216
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	0.0352	0.0250	0.2451	7.4000e-004	0.0822	5.3000e-004	0.0827	0.0218	4.9000e-004	0.0223		74.2042	74.2042	1.7900e-003		74.2489
Total	0.3913	11.8582	2.5403	0.0347	0.8481	0.0369	0.8850	0.2318	0.0353	0.2671		3,680.824 4	3,680.824 4	0.1899		3,685.570 5

3.4 Building Construction - 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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.220 0	2,001.220 0	0.3573		2,010.151 7
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.220 0	2,001.220 0	0.3573		2,010.151 7

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.4 Building Construction - 2021

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	0.0224	0.7469	0.1715	1.8800e-003	0.0474	1.5900e-003	0.0490	0.0137	1.5200e-003	0.0152		198.8788	198.8788	0.0117		199.1718
Worker	0.0670	0.0474	0.4657	1.4100e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		140.9880	140.9880	3.4000e-003		141.0730
Total	0.0894	0.7943	0.6372	3.2900e-003	0.2035	2.6000e-003	0.2061	0.0551	2.4500e-003	0.0575		339.8668	339.8668	0.0151		340.2448

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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.4 Building Construction - 2021

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	0.0224	0.7469	0.1715	1.8800e-003	0.0474	1.5900e-003	0.0490	0.0137	1.5200e-003	0.0152		198.8788	198.8788	0.0117		199.1718
Worker	0.0670	0.0474	0.4657	1.4100e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		140.9880	140.9880	3.4000e-003		141.0730
Total	0.0894	0.7943	0.6372	3.2900e-003	0.2035	2.6000e-003	0.2061	0.0551	2.4500e-003	0.0575		339.8668	339.8668	0.0151		340.2448

3.5 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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0202	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.5 Paving - 2021

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	0.0458	0.0325	0.3186	9.7000e-004	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		96.4654	96.4654	2.3300e-003		96.5236
Total	0.0458	0.0325	0.3186	9.7000e-004	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		96.4654	96.4654	2.3300e-003		96.5236

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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2463					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0202	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.5 Paving - 2021

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	0.0458	0.0325	0.3186	9.7000e-004	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		96.4654	96.4654	2.3300e-003		96.5236
Total	0.0458	0.0325	0.3186	9.7000e-004	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		96.4654	96.4654	2.3300e-003		96.5236

3.6 Architectural Coating - 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					
Archit. Coating	6.6510					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	6.8699	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.6 Architectural Coating - 2021

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	0.0141	9.9900e-003	0.0980	3.0000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		29.6817	29.6817	7.2000e-004		29.6996
Total	0.0141	9.9900e-003	0.0980	3.0000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		29.6817	29.6817	7.2000e-004		29.6996

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					
Archit. Coating	6.6510					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	6.8699	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

North Livermore Avenue Chick-fil-A - Alameda County, Winter

3.6 Architectural Coating - 2021

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	0.0141	9.9900e-003	0.0980	3.0000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		29.6817	29.6817	7.2000e-004		29.6996
Total	0.0141	9.9900e-003	0.0980	3.0000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		29.6817	29.6817	7.2000e-004		29.6996

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

North Livermore Avenue Chick-fil-A - Alameda County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.5130	15.5829	21.3950	0.0585	4.0680	0.0580	4.1259	1.0899	0.0544	1.1443		5,959.1990	5,959.1990	0.4132		5,969.5282
Unmitigated	2.5130	15.5829	21.3950	0.0585	4.0680	0.0580	4.1259	1.0899	0.0544	1.1443		5,959.1990	5,959.1990	0.4132		5,969.5282

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	2,232.54	2,232.54	0.00	1,634,373	1,634,373
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	2,232.54	2,232.54	0.00	1,634,373	1,634,373

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	25	25	50
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

North Livermore Avenue Chick-fil-A - Alameda County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Parking Lot	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

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	lb/day										lb/day					
NaturalGas Mitigated	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
NaturalGas Unmitigated	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842

North Livermore Avenue Chick-fil-A - Alameda County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant with Drive Thru	2697.88	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant with Drive Thru	2.69788	0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0291	0.2645	0.2222	1.5900e-003		0.0201	0.0201		0.0201	0.0201		317.3981	317.3981	6.0800e-003	5.8200e-003	319.2842

North Livermore Avenue Chick-fil-A - Alameda County, Winter

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Unmitigated	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166

North Livermore Avenue Chick-fil-A - Alameda County, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.7000e-004	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Total	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0182					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.7000e-004	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166
Total	0.1348	7.0000e-005	7.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0155	0.0155	4.0000e-005		0.0166

7.0 Water Detail

North Livermore Avenue Chick-fil-A - Alameda County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

**Chick-fil-A Project Idling Emmsions for Cars and Light Duty Trucks
Alameda County, 2022**

Input		Pounds per Day					CO2e (MT per Year)				
		ROG	CO	NOX	PM10	PM2.5	GWP	CO2	CH4	N20	Total
Vehicles per Day in the Idling Queue	655										
Average Idling Time (minutes)	5	1.82E-03	3.26E-02	2.28E-03	2.41E-04	2.22E-04		1	25	298	
Metric Tonnes (MT) per Pound	4.54E-04							2.60	0.00	0.01	2.62

Notes:

1. Idling emissions are approximated by 5 mph emissions. Number of vehicles from TIA (Hexagon 2020).
2. Average idling emissions in pounds per minute for Alameda County calculated using weighted average of annual VMT for cars and light duty trucks.
3. Electric vehicle VMT estimated from EMFAC2017 aggregated speed report, electric vehicle percent of car and light duty truck VMT.
4. Does not account for auto engine stop/start, or drivers shutting off engines.

