

Appendix E:  
Energy Data

**Construction Fuel Consumption**

On-Site Diesel <sup>1</sup>	MTCO <sub>2</sub> e	Gallons of Fuel <sup>1</sup>	Current County Fuel	Percent
Demolition	34	3,372		
Site Preparation/Grading	19	1,872		
Building Construction	146	14,384		
Paving	165	16,256		
Architectural Coating	9	887		
<b>Total</b>	<b>373</b>	<b>36,771</b>	<b>126,863,269</b>	<b>0.0290%</b>

Off-Site Diesel <sup>1</sup>	MTCO <sub>2</sub> e	Gallons of Fuel <sup>1</sup>	Current County Fuel	Percent
Demolition	7	690		
Site Preparation/Grading	0	0		
Building Construction	78	7,685		
Paving	2	197		
Architectural Coating	0	0		
<b>Total</b>	<b>87</b>	<b>8,571</b>	<b>126,863,269</b>	<b>0.0068%</b>

Off-Site Gasoline <sup>2</sup>	MTCO <sub>2</sub> e	Gallons of Fuel <sup>2</sup>	Current County Fuel	Percent
Demolition	1	114		
Site Preparation/Grading	2	253		
Building Construction	93	10,556		
Paving	5	568		
Architectural Coating	10	1,135		
<b>Total</b>	<b>111</b>	<b>12,625</b>	<b>500,759,258</b>	<b>0.0025%</b>

Total Diesel Fuel		45,343	126,863,269	0.0357%
Total Gasoline Fuel		12,625	500,759,258	0.0025%
<b>Total Construction Fuel</b>	<b>571</b>	<b>57,968</b>		

Construction Phase <sup>3</sup>	Demolition			Site Preparation			Paving		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2022	34	7	1	12	0	1	7	0	1
<b>Total</b>	<b>34</b>	<b>7</b>	<b>1</b>	<b>12</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>0</b>	<b>1</b>

Construction Phase <sup>3</sup>	Building Construction			Grading			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2022	146	78	93	165	2	5	9	0	10
<b>Total</b>	<b>146</b>	<b>78</b>	<b>93</b>	<b>165</b>	<b>2</b>	<b>5</b>	<b>9</b>	<b>0</b>	<b>10</b>

Notes:

<sup>1</sup> Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

<sup>2</sup> Fuel used for worker trips assumed to be gasoline.

<sup>3</sup> MTCO<sub>2</sub>e rates from CalEEMod (3.0 Construction Details).

<sup>4</sup> For CO<sub>2</sub>e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2016.

Climate Registry Conversion Ratios:

- Gasoline: 10.15 kg CO<sub>2</sub> per gallon / 1,000 kg per metric ton
- Diesel: 8.81 kg CO<sub>2</sub> per gallon / 1,000 kg per metric ton

**Operational Fuel**

Vehicle Type	Percent <sup>1</sup>	Annual VMT <sup>2</sup>	MPG <sup>3</sup>	Annual Fuel (Gallons)	Fuel Type	SB Gallons <sup>4</sup>	SB Percent
Passenger Cars (Gasoline)	1.00	2,241,972	21.6	103,795	Gas	500,759,258	0.0207%
Light/Medium Trucks	0.38	549,475	17.2	31,946	Diesel	126,863,269	0.0252%
Heavy Trucks/Other	0.62	879,161	6.1	144,125	Diesel	126,863,269	0.1136%
Total Diesel	1.00	1,428,636		176,071			0.1388%

Land Use <sup>5</sup>	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
General Office Building	0.552018	0.07336	0.189757	0.025522	0.159343	0	0	0	0	0	0	0	0
Parking Lot	0.537785	0.055838	0.172353	0.025303	0.139003	0.027005	0.007196	0.011392	0.000559	0.000254	0.000954	0.0051	0.017285
Unrefrigerated Warehouse-No Rail	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1731	0.2115	0.0000	0.0000	0.0000	0.0000	0.6154

Notes:

- <sup>1</sup> Percent of vehicle trip distribution based on fleet mix from CalEEMod (4.4 Fleet Mix).
- <sup>2</sup> Total annual operational VMT based on mitigated annual VMT from CalEEMod (4.2 Trip Summary Information).
- <sup>3</sup> Average fuel economy derived from Department of Transportation.
- <sup>4</sup> Total annual county fuel per EMFAC 2017 model of projected operational fuel usage.

**Electricity/Natural Gas Energy**

	Mitigated Project	San Bernardino County	Percentage
	Annual Energy	Annual Energy <sup>3</sup>	Increase
Electricity (kWh/yr)	851,004	15,323,268,766	0.0056%
Natural Gas (kBTU/yr)	634,942	50,008,247,400	0.0013%
Natural Gas (therms/yr)	6,349	500,082,474	0.0013%

Land Use	Electricity <sup>1</sup> (kWh/yr)		Natural Gas <sup>2</sup> (kBTU/yr)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
General office Building	147,040	147,040	54,880	54,880
Parking Lot	34,440	34,440	0	0
Unrefrigerated Warehouse-No Rail	669,524	669,524	580,062	580,062
<b>Total Energy</b>	<b>851,004</b>	<b>851,004</b>	<b>634,942</b>	<b>634,942</b>

Notes:

<sup>1</sup> Electricity use per CalEEMod (5.3 Energy by Land Use).

<sup>2</sup> Natural Gas use per CalEEMod (5.2 Natural Gas by Land Use).

<sup>3</sup> County total energy values from California Energy Commission energy reports available through [ecdms.energy.ca.gov](http://ecdms.energy.ca.gov).