Construction Fuel

On-Site Diesel[1]	$MTCO_2e$	Gallons of Fuel[4]	2022 County Fuel	Percent Increase Countywide
Demolition	34	3,350		
Site Preparation/Grading	108	10,640		
Building Construction	326	32,118		
Paving	20	1,970		
Architectural Coating	11	1,084		
Total	499	49,163	**98,195,375.73**	0.0501%
Off-Site Diesel[1]				
Demolition	0	0		
Site Preparation/Grading	0	0		
Building Construction	255	25,123		
Paving	0	0		
Architectural Coating	0	0		
Total	255	25,123	**98,195,375.73**	0.0256%
Off-Site Gasoline[2]				
Demolition	1	114		
Site Preparation/Grading	4	407		
Building Construction	199	22,588		
Paving	1	114		
Architectural Coating	11	1,249		
Total	216	24,471	**287,745,040**	0.0085%
Total Diesel Fuel		**74,286**	98,195,376	0.0757%
Total Gasoline Fuel		**24,471**	287,745,040	**0.0085%**
Total Construction Fuel	970	**98,757**		

Construction Phase[3]	**Demolition**			**Site Preparation**			**Grading**		
	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	0	1	17	0	1	91	0	3
2023									
Total	**34**	**0**	**1**	**17**	**0**	**1**	**91**	**0**	**3**
Construction Phase[3]	**Building Construction**			**Paving**			**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	58	47	36	0	0	0	0	0	0
2023	268	208	163	20		1	11		11
Total	**326**	**255**	**199**	**20**	**0**	**1**	**11**	**0**	**11**

Notes:

[1] Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

[2] Fuel used for worker trips assumed to be gasoline.

[3] $MTCO_2e$ rates from CalEEMod (3.0 Construction Details).

[4] For CO2e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2016.

Operational Fuel

Vehicle Type	Percent[1]	Annual VMT[2]	MGP[3]	Annual Fuel	Fuel Type	County Gallons[4]	County Percent		Statewide	Statewide percent
Passenger Cars	0.5920	7,571,339	21.6	**350,525**	Gas	284,968,748	0.1230%		14,773,931,520	0.0024%
Light/Medium Trucks	0.15000	1,918,414	17.2	111,536	Diesel	98,291,520	**0.0232%**	0.6638%	3,625,305,260	0.0031%
Heavy Trucks/Other	0.26	3,299,671	6.1	540,930	Diesel	98,291,520	**0.1123%**			
Total	1.000	**12,789,424**		**652,465**		481,551,788				

Notes:

[1] Percent of vehicle trip distribution based on fleet mix from CalEEMod (4.4 Fleet Mix).

[2] Total annual operational VMT based on mitigated annual VMT from CalEEMod (4.2 Trip Summary Information).

[3] Average fuel economy derived from Department of Transportation.

[4] Total annual county fuel per EMFAC 2017 model of projected operational fuel usage.

Electricity and Natural Gas

	Mitigated Project Annual Energy	County Annual Energy[3]	Percentage Increase
Electricity (kWh/yr)	4,086,621	**5,736,910,204**	**0.0712%**
Electricity (MWh/yr)	4,087	**5,736,910**	0.0712%
Electricity (GWh/yr)	**4.087**	**5,737**	**0.0712%**
Adjusted Electricity (GWh/yr)	**10.502**	**5,737**	**0.1831%**
Natural Gas (million therms)		**184**	
Natural Gas (kBTU/yr)	8,388,433	**18,394,986,800**	**0.0456%**
Natural Gas (therms)	83,884	183,949,868.00	0.0456%

Land Use	**Electricity[1] (kWh/yr)**		**Natural Gas[2] (kBTU/yr)**	
	Unmitigated	**Mitigated**	**Unmitigated**	**Mitigated**
Automobile Center	16560	16560	3.69E+04	3.69E+04
Gas Station	69357	69357	70638	70638
Fast Food	274765	274765	975639	975639
Hotel	1.17E+06	1.17E+06	4.80E+06	4.80E+06
Parking	9260	9260	0	0
Shopping Center	371799	371799	378666	378666
Supermarket	2.18E+06	2.18E+06	2.12E+06	2.12E+06
Total Energy	**4,086,621**	**4,086,621**	**8,388,433**	**8,388,433**

Notes:

[1] Electricity use per CalEEMod (5.3 Energy by Land Use).

[2] Natural Gas use per CalEEMod (5.2 Natural Gas by Land Use).

[3] County total energy values from California Energy Commission energy reports available through ecdms.energy.ca.gov.

Construction Water

Daily Soil Disturbance[1]	**105**	acres
Days of Soil Disturbance[2]	**40**	days
Water Concentration[3]	3,020	gallons/acre
Water Energy Intensity[4]	3,500	kWh/MG
Total Construction Water	**12.68**	million gallons
Construction Water Energy	**44,394**	kWh
	44.3940	MWh
Percentage Increase Countywide	0.000774%	

Notes:

[1] Total daily acres disturbed from offroad equipment per CalEEMod (3.0 Construction Detail) and maximum SCAQMD LST values for soil-disturbing equipment.

[2] Number of days of construction with soil-disturbing equipment per CalEEMod (3.0 Construction Detail).

[3] Water application rate per Air and Waste Management Association's Air Pollution Engineering Manual.

[4] Water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343.

Operational Water

Mitigated Indoor	12	million gallons
Indoor Energy Intensity Factor[1]	5,411	kWh/MG
Mitigated Outdoor	2	million gallons
Outdoor Energy Intensity Factor[2]	3,500	kWh/MG
Operational Water Energy	**75451.95**	kWh
Operational Water Energy	75.45195	MWh
Operational Water Energy	**0.07545195**	GWh
Percentage Countywide	0.0013%	
Total water use	**15**	million gallons

Land Use[3]	**Unmitigated (MG)**		**Mitigated (MG)**	
	Indoor	**Outdoor**	**Indoor**	**Outdoor**
Automobile Center	0	0	0	0
Gas Station	0	0	0	0
Fast Food	3	0	2	0
Hotel	3	0	3	0
Parking	0	0	0	0
Shopping Center	2	1	2	1
Supermarket	7	0	5	0
Total Operational Water	**16**	**2**	**12**	**2**

Notes:

[1] Indoor water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343. Factor includes supply, treatment, distribution, and wastewater.

[2] Outdoor water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343. Factor includes supply, treatment, and distribution.

[3] Operational water use values per CalEEMod (7.2 Water by Land Use).