

# **Appendix D**

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## Energy Calculations

# Sunset Wilcox

## Draft EIR

### Appendix D

## Energy Analysis Spreadsheets

- Appendix D: Energy Analysis
  - Energy Consumption Summary
  - Construction Energy Usage
    - Construction Electricity Consumption
    - Off-Road Equipment
    - On-Road Fuel Usage Rates
    - On-Road Vehicles
    - Construction Water Usage
  - Operational Energy Usage
    - Existing
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    - Buildout with Project Design Features
    - Peak Electricity Demand Calculations
    - Total County Fuel Consumption

## Sunset and Wilcox

### Summary of Energy Use During Construction

<b>Electricity</b>	
Water Consumption	1,727 kWh
Temporary Power (lighting, tools)	22,176 kWh
<b>Total:</b>	<b>23,903 kWh</b>
<b>Gasoline</b>	
On Road	58,612 Gallons
Off Road	0 Gallons
<b>Total:</b>	<b>58,612 Gallons</b>
<b>Diesel</b>	
On Road	93,914 Gallons
Off Road	128,607 Gallons
<b>Total:</b>	<b>222,521 Gallons</b>
<b>Total Mobile</b>	<b>281,133</b>

### Summary of Energy Use During Operations

	Baseline (Buildout)	Buildout Without Project Features	Buildout With Project Features	Percent Reduction due to Project Features	Project Without Project Features - Baseline (Buildout)	Project (Buildout - Baseline (Buildout))	Reduction (%)	Units
<b>Electricity</b>								
Electricity (building)	335,277	7,583,315	6,845,595	-10%	7,248,039	6,510,318	-10%	kWh/year
Electricity (water)	63,171	1,367,568	1,094,055	-20%	1,304,397	1,030,884	-21%	kWh/year
EV Charging	0	131,093	131,093	-	131,093	131,093	0%	kWh/year
<b>Electricity Total</b>	<b>398,448</b>	<b>9,081,977</b>	<b>8,070,743</b>	<b>-11%</b>	<b>8,683,528</b>	<b>7,672,295</b>	<b>-12%</b>	<b>kWh/year</b>
<b>Natural Gas</b>	<b>180,738</b>	<b>6,979,085</b>	<b>6,979,085</b>	<b>0%</b>	6,798,347	6,798,347	0%	<b>cu ft/year</b>
<b>Emergency Generator (Diesel)</b>		<b>370</b>	<b>370</b>	<b>0%</b>	370	370	0%	<b>Gallons/year</b>
<b>Mobile</b>								
Gasoline	44,030	430,699	283,567	-34%	386,669	239,537	-38%	Gallons/year
Diesel	8,917	87,230	57,431	-34%	78,312	48,513	-38%	Gallons/year
<b>Mobile Total (including Emergency Generator)</b>	<b>52,947</b>	<b>518,299</b>	<b>341,367</b>	<b>-34%</b>	464,981	288,420	<b>-38%</b>	<b>Gallons/year</b>

## Construction Electricity Usage

### Construction Electricity Usage

#### Caterpillar 40-C4.4 Generator<sup>a</sup>

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Peak Power Rating - Prime (kW)	36
Typical Load	70%
Average Output (kW)	25.2
Hours per Day	2
Average Daily Output (kWh)	50.4
Building Construction Phase Duration (days)	440
Total Construction (kWh)	22,176
Total Construction (MWh)	22.2

<sup>a</sup><https://www.albancat.com/content/uploads/2014/06/40-C4.4-Spec-Sheet.pdf>

Calculation of Diesel Usage During Construction (Offroad Equipment):

Phase Name	Off Road Equipment Type	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage	
Demolition	Concrete/Industrial Saws	1	8	81	0.73	0.6	34	483	
Demolition	Excavators	3	8	158	0.38	0.6	34	1,470	
Demolition	Generator Sets	1	8	84	0.74	0.6	34	507	
Demolition	Rough Terrain Forklifts	1	8	100	0.4	0.6	34	326	
Demolition	Rubber Tired Dozers	0	8	247	0.4	0.6	34	0	
Demolition	Rubber Tired Loaders	1	8	203	0.36	0.6	34	596	
Grading	Air Compressors	2	8	78	0.48	0.6	73	1,312	
Grading	Bore/Drill Rigs	2	8	221	0.5	0.6	73	3,872	
Grading	Cranes	1	8	231	0.29	0.6	73	1,174	
Grading	Excavators	2	8	158	0.38	0.6	73	2,104	
Grading	Forklifts	0	8	89	0.2	0.6	73	0	
Grading	Generator Sets	4	8	84	0.74	0.6	73	4,356	
Grading	Graders	1	8	187	0.41	0.6	73	1,343	
Grading	Pumps	2	8	84	0.74	0.6	73	2,178	
Grading	Rough Terrain Forklifts	2	8	100	0.4	0.6	73	1,402	
Grading	Rubber Tired Dozers	0	8	247	0.4	0.6	73	0	
Grading	Rubber Tired Loaders	2	8	203	0.36	0.6	73	2,561	
Grading	Scrapers	0	8	367	0.48	0.6	73	0	
Grading	Signal Boards	2	8	6	0.82	0.6	73	172	
Grading	Skid Steer Loaders	1	8	65	0.37	0.6	73	421	
Grading	Tractors/Loaders/Backhoes	0	8	97	0.37	0.6	73	0	
Mat Foundation	Aerial Lifts	1	8	63	0.31	0.6	4	19	
Mat Foundation	Air Compressors	2	16	78	0.48	0.6	4	144	
Mat Foundation	Cranes	2	16	231	0.29	0.6	4	257	
Mat Foundation	Forklifts	2	8	89	0.2	0.6	4	34	
Mat Foundation	Generator Sets	4	16	84	0.74	0.6	4	477	
Mat Foundation	Pumps	4	16	84	0.74	0.6	4	477	
Mat Foundation	Rough Terrain Forklifts	2	8	100	0.4	0.6	4	77	
Mat Foundation	Rubber Tired Loaders	1	8	203	0.36	0.6	4	70	
Mat Foundation	Signal Boards	0	8	6	0.82	0.6	4	0	
Mat Foundation	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	4	0	
Mat Foundation	Welders	0	8	46	0.45	0.6	4	0	
Building Foundation	Air Compressors	2	8	78	0.48	0.6	49	881	
Building Foundation	Cranes	1	8	231	0.29	0.6	49	788	
Building Foundation	Forklifts	0	8	89	0.2	0.6	49	0	
Building Foundation	Generator Sets	4	8	84	0.74	0.6	49	2,924	
Building Foundation	Pumps	1	8	84	0.74	0.6	49	731	
Building Foundation	Rough Terrain Forklifts	2	8	100	0.4	0.6	49	941	
Building Foundation	Rubber Tired Loaders	1	8	203	0.36	0.6	49	859	
Building Foundation	Signal Boards	0	8	6	0.82	0.6	49	0	
Building Foundation	Skid Steer Loaders	1	8	65	0.37	0.6	49	283	
Building Foundation	Tractors/Loaders/Backhoes	1	8	97	0.37	0.6	49	422	
Building Foundation	Welders	0	8	46	0.45	0.6	49	0	
Building Construction	Aerial Lifts	10	8	63	0.31	0.6	440	20,624	
Building Construction	Air Compressors	4	8	78	0.48	0.6	440	15,815	
Building Construction	Cement and Mortar Mixers	2	8	9	0.56	0.6	440	1,064	
Building Construction	Concrete/Industrial Saws	2	8	81	0.73	0.6	440	12,488	
Building Construction	Cranes	1	8	231	0.29	0.6	440	7,074	
Building Construction	Forklifts	3	8	89	0.2	0.6	440	5,639	
Building Construction	Generator Sets	1	8	84	0.74	0.6	440	6,564	
Building Construction	Pumps	2	8	84	0.74	0.6	440	13,128	
Building Construction	Rough Terrain Forklifts	1	8	100	0.4	0.6	440	4,224	
Building Construction	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	440	0	
Building Construction	Welders	2	8	46	0.45	0.6	440	4,372	
Architectural Coating	Air Compressors	1	6	78	0.48	0.6	132	890	
Paving	Pavers	1	8	130	0.42	0.6	68	891	
Paving	Paving Equipment	0	8	132	0.36	0.6	68	0	
Paving	Rollers	1	8	80	0.38	0.6	68	496	
Paving	Skid Steer Loaders	2	8	65	0.37	0.6	68	785	
Paving	Tractors/Loaders/Backhoes	1	8	97	0.37	0.6	68	586	
<b>Total Diesel Usage for Construction (Offr</b>								<b>128,606.7</b>	<b>gallons of diesel fuel</b>

gallons of diesel fuel per horsepower-hour=

0.05

Notes: Equipment assumptions are provide in the CalEEMod output files and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

EMFAC2017 Emissions Inventory

Region Type: Air Basin

Region: South Coast

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	Veh_Class	Fuel	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)	Miles per Gallon
South Coast	LDA	GAS	Aggregate	6,459,701	246,807,538	30,522,038	7,786	0	31.7
South Coast	LDT1	GAS	Aggregate	737,358	27,059,295	3,407,419	996	0	27.2
South Coast	LDT2	GAS	Aggregate	2,219,229	82,875,046	10,414,098	3,244	0	25.5
<b>Construction Worker Trip (Composite LDA/LDT1/LDT2):</b>									<b>29.0</b>
South Coast	HHDT	DSL	Aggregate	99,862	12,043,323	1,008,087	0	1696.5	<b>7.1</b>

Notes: Consistent with CalEEMod, a construction worker trip is assumed to be a composite of 50% LDA , 25% for LDT1, and 25% for LDT2. Used EMFAC 2011 Categories for construction as EMFAC2011 has specific categories for vehicle class T7.

Calculation of Gasoline and Diesel Usage During Construction (Onroad Vehicles):

Phase Name	Daily Worker Trips	Daily Vendor Trips	Days	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Trip Length (miles)			Total Length (miles)			Avg. Daily Factor (worker and vendor)	Gallons of Fuel	
							Worker	Vendor	Haul	Worker	Vendor	Haul		Gasoline	Diesel
Demolition	20	20	34	680	680	0	14.7	60	20	9996	40800	0	0.6	206.6	3,448.5
Grading	53	150	73	3869	10950	0	14.7	60	20	56874.3	657000	0	0.6	1,175.5	55,530.5
Mat Foundation	361	696	4	1444	2784	0	14.7	9	20	21226.8	25056	0	0.6	438.7	2,117.8
Building Foundation	361	45	49	17689	2205	0	14.7	19	20	260028.3	41895	0	0.6	5,374.5	3,541.0
Building Construction	361	111	440	158840	48840	0	14.7	6.9	20	2334948	336996	0	0.6	48,260.4	28,483.4
Architectural Coating	72	0	132	9504	0	0	14.7	6.9	20	139708.8	0	0	0.6	2,887.6	0.0
Paving	13	20	68	884	1360	0	14.7	6.9	20	12994.8	9384	0	0.6	268.6	793.1
<b>Total:</b>														<b>58,611.9</b>	<b>93,914.3</b>

Worker Miles per gallon= 29.03 gasoline  
 Vendor/Haul miles per gallon= 7.10 diesel

Notes: Consistent with CalEEMod worker vehicles are assumed to be gasoline and 50% LDA, 25%LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy Duty Trucks (T7).

**Water Usage for Control of Fugitive Dust during Construction:**

Phase	Days	Average Daily Acreage Disturbed	Gallons Per Year	Electricity (kWhr)
Demolition	34	0.5	51,340	499
Grading	73	0.5	110,230	1,072
Mat Foundation	4	0.1	1,208	12
Building Foundation	49	0.1	14,798	144
Building Construction	440	0	0	0
Architectural Coating	132	0	0	0
Paving	68	0	0	0
<b>Total:</b>			<b>177,576</b>	<b>1,727</b>

Water application rate= 3020 gal/acre/day  
 kWhr equivalent= 0.01 kWhr

Notes: 1) Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 66% (three times daily) with an application rate of 3,020 gal/acre/day (Air & Waste Management Association Air Pollution Engineering Manual (1992 Edition)) and average of 26 construction days per month.

2) CalEEMod Default: Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).



EMFAC2017 Emissions Inventory  
 Region Type: Air Basin  
 Region: South Coast  
 Calendar Year: 2026  
 Season: Annual

Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)		
South Coast	2026	Annual	HHDT	DSL	Aggregated	Aggregated	105,675	12,751,065	1,083,231	0.00	1,706.12		
South Coast	2026	Annual	HHDT	GAS	Aggregated	Aggregated	72	9,056	1,448	1.98	0.00		
South Coast	2026	Annual	LDA	DSL	Aggregated	Aggregated	69,487	2,662,198	331,543	0.00	49.43		
South Coast	2026	Annual	LDA	GAS	Aggregated	Aggregated	6,704,944	246,806,990	31,652,207	7,181.31	0.00		
South Coast	2026	Annual	LDT1	DSL	Aggregated	Aggregated	271	6,523	972	0.00	0.27		
South Coast	2026	Annual	LDT1	GAS	Aggregated	Aggregated	797,972	28,250,579	3,694,973	965.17	0.00		
South Coast	2026	Annual	LDT2	DSL	Aggregated	Aggregated	18,736	731,082	91,137	0.00	18.48		
South Coast	2026	Annual	LDT2	GAS	Aggregated	Aggregated	2,335,277	84,175,951	10,957,538	2,984.26	0.00		
South Coast	2026	Annual	LHDT1	DSL	Aggregated	Aggregated	139,023	5,295,410	1,748,738	0.00	230.79		
South Coast	2026	Annual	LHDT1	GAS	Aggregated	Aggregated	168,489	5,874,475	2,510,232	530.41	0.00		
South Coast	2026	Annual	LHDT2	DSL	Aggregated	Aggregated	55,913	2,060,893	703,310	0.00	99.61		
South Coast	2026	Annual	LHDT2	GAS	Aggregated	Aggregated	29,463	989,949	438,956	102.88	0.00		
South Coast	2026	Annual	MCY	GAS	Aggregated	Aggregated	322,523	2,094,696	645,046	58.10	0.00		
South Coast	2026	Annual	MDV	DSL	Aggregated	Aggregated	42,426	1,571,040	205,257	0.00	51.68		
South Coast	2026	Annual	MDV	GAS	Aggregated	Aggregated	1,572,718	53,374,931	7,287,784	2,344.22	0.00		
South Coast	2026	Annual	MH	DSL	Aggregated	Aggregated	13,541	124,597	1,354	0.00	11.23		
South Coast	2026	Annual	MH	GAS	Aggregated	Aggregated	32,760	313,616	3,277	57.32	0.00		
South Coast	2026	Annual	MHDT	DSL	Aggregated	Aggregated	134,072	8,355,583	1,362,242	0.00	713.12		
South Coast	2026	Annual	MHDT	GAS	Aggregated	Aggregated	25,396	1,292,911	508,129	240.62	0.00		
South Coast	2026	Annual	OBUS	DSL	Aggregated	Aggregated	4,742	345,782	46,109	0.00	37.71		
South Coast	2026	Annual	OBUS	GAS	Aggregated	Aggregated	5,826	225,084	116,563	42.00	0.00		
South Coast	2026	Annual	SBUS	DSL	Aggregated	Aggregated	6,505	205,751	75,067	0.00	25.74		
South Coast	2026	Annual	SBUS	GAS	Aggregated	Aggregated	3,163	121,040	12,653	12.79	0.00		
South Coast	2026	Annual	UBUS	DSL	Aggregated	Aggregated	6	776	25	0.00	0.14		
South Coast	2026	Annual	UBUS	GAS	Aggregated	Aggregated	975	91,363	3,900	16.60	0.00		
							Totals	457,731,340.49		14,537.67	2,944.32	MPG	Gallons Per Mile
							Total (GAS)	423,620,640.66	0.93			26.2	0.04
							Total (DSL)	34,110,699.83	0.07			29.1	0.03
												11.6	0.09

Baseline Year

Calendar Year: 2020

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)		
South Coast	2020	Annual	HHDT	DSL	Aggregated	Aggregated	94,401	11,283,644	946,657	0.00	1,766.78		
South Coast	2020	Annual	HHDT	GAS	Aggregated	Aggregated	87	7,545	1,742	1.92	0.00		
South Coast	2020	Annual	LDA	DSL	Aggregated	Aggregated	49,859	2,047,192	236,026	0.00	44.27		
South Coast	2020	Annual	LDA	GAS	Aggregated	Aggregated	6,178,149	245,245,790	29,171,004	8,365.83	0.00		
South Coast	2020	Annual	LDT1	DSL	Aggregated	Aggregated	436	10,308	1,530	0.00	0.47		
South Coast	2020	Annual	LDT1	GAS	Aggregated	Aggregated	673,575	25,456,837	3,092,733	1,009.70	0.00		
South Coast	2020	Annual	LDT2	DSL	Aggregated	Aggregated	11,075	498,882	54,951	0.00	14.82		
South Coast	2020	Annual	LDT2	GAS	Aggregated	Aggregated	2,108,550	81,418,835	9,872,323	3,534.79	0.00		
South Coast	2020	Annual	LHDT1	DSL	Aggregated	Aggregated	103,329	4,276,353	1,299,754	0.00	203.96		
South Coast	2020	Annual	LHDT1	GAS	Aggregated	Aggregated	173,615	6,333,811	2,586,599	612.63	0.00		
South Coast	2020	Annual	LHDT2	DSL	Aggregated	Aggregated	40,573	1,644,690	510,356	0.00	86.79		
South Coast	2020	Annual	LHDT2	GAS	Aggregated	Aggregated	28,772	1,018,932	428,657	113.15	0.00		
South Coast	2020	Annual	MCY	GAS	Aggregated	Aggregated	269,351	1,916,380	538,702	52.62	0.00		
South Coast	2020	Annual	MDV	DSL	Aggregated	Aggregated	26,705	1,126,984	131,705	0.00	43.61		
South Coast	2020	Annual	MDV	GAS	Aggregated	Aggregated	1,509,433	54,618,604	6,970,808	2,902.92	0.00		
South Coast	2020	Annual	MH	DSL	Aggregated	Aggregated	11,454	113,101	1,145	0.00	10.93		
South Coast	2020	Annual	MH	GAS	Aggregated	Aggregated	35,046	331,213	3,506	66.06	0.00		
South Coast	2020	Annual	MHDT	DSL	Aggregated	Aggregated	116,762	7,338,725	1,166,319	0.00	723.81		
South Coast	2020	Annual	MHDT	GAS	Aggregated	Aggregated	24,612	1,335,069	492,446	269.65	0.00		
South Coast	2020	Annual	OBUS	DSL	Aggregated	Aggregated	4,066	300,794	39,836	0.00	37.45		
South Coast	2020	Annual	OBUS	GAS	Aggregated	Aggregated	5,847	252,354	116,983	51.35	0.00		
South Coast	2020	Annual	SBUS	DSL	Aggregated	Aggregated	6,271	198,203	72,370	0.00	26.62		
South Coast	2020	Annual	SBUS	GAS	Aggregated	Aggregated	2,268	93,421	9,073	10.44	0.00		
South Coast	2020	Annual	UBUS	DSL	Aggregated	Aggregated	18	1,877	73	0.00	0.30		
South Coast	2020	Annual	UBUS	GAS	Aggregated	Aggregated	938	88,203	3,753	18.36	0.00		
							Totals	446,957,746.58		17,009.43	2,959.81	MPG	Gallons Per Mile
							Total (GAS)	418,116,993.09	0.94			22.4	0.04
							Total (DSL)	28,840,753.49	0.06			24.6	0.10

**Sunset and Wilcox - Existing Operations Buildout Year  
Los Angeles-South Coast County, Annual**

**Land Use Details**

<i>Land Uses</i>	<i>Size</i>	<i>Metric</i>	<i>Lot Acreage</i>	<i>Floor Surface Area</i>	<i>Population</i>
General Office Building	16.93	1000sqft	0.39	16,932.00	0
User Defined Commercial	1.00	User Defined	0.00	0.00	0
Parking Lot	4.85	1000sqft	0.11	4,848	0
Strip Mall	9.33	1000sqft	0.21	9,329.00	0

**Trip Summary Information**

<i>Land Uses</i>	<i>Average Daily Trip Rate</i>			<i>Annual VMT</i>
	<i>Weekday</i>	<i>Saturday</i>	<i>Sunday</i>	
General Office Building	0	0	0	0
Parking Lot	0	0	0	0
Strip Mall	0	0	0	0
User Defined Commercial	571	571	571	1386319
<b>Total</b>	<b>571.00</b>	<b>571.00</b>	<b>571.00</b>	<b>1,386,319</b>

**Gasoline and Diesel Usage**

	<b>Buildout Year</b>		<b>Existing (Baseline) Year</b>	
	<i>Gasoline</i>	<i>Diesel</i>	<i>Gasoline</i>	<i>Diesel</i>
<i>Miles/Gallon</i>	29.1	11.6	24.6	9.7
<i>% Fleet Mix</i>	92.5%	7.5%	93.5%	6.5%
<b>Total (Gallons):</b>	<b>44,030</b>	<b>8,917</b>	<b>52,758</b>	<b>9,180</b>

**Energy by Land Use - Natural Gas**

<i>Land Uses</i>	<i>kBTU/yr</i>	<i>cu ft/year</i>
General Office Building	174,569	166,256
Parking Lot	0	0
Strip Mall	15,206	14,482
User Defined Commercial	0	0
<b>Total</b>	<b>189,775</b>	<b>180,738</b>

**Energy by Land Use - Electricity**

<i>Land Uses</i>	<i>kWH/yr</i>
General Office Building	211,650
Parking Lot	1,697
Strip Mall	121,930
User Defined Commercial	0
<b>Total</b>	<b>335,277</b>

**Water Detail**

<i>Land Uses</i>	<i>Indoor Use</i>	<i>Outdoor Use</i>	<i>Electricity Use</i>
	<i>(Mgal)</i>	<i>(Mgal)</i>	<i>(kWh/yr)</i>
General Office Building	3.009	1.844	51,372
Parking Lot	0.000	0.000	0
Strip Mall	0.691	0.424	11,799
User Defined Commercial	0.000	0.000	0
<b>Total</b>	<b>3.700</b>	<b>2.268</b>	<b>63,171</b>

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

**Sunset and Wilcox - Buildout Operations Without Project Features  
Los Angeles-South Coast County, Annual**

**Land Use Details**

<i>Land Uses</i>	<i>Size</i>	<i>Metric</i>	<i>Lot Acreage</i>	<i>Floor Surface Area</i>	<i>Population</i>
General Office Building	431.03	1000sqft	9.90	431,030.00	0
User Defined Commercial	1.00	User Defined Un	0.00	0.00	0
General Light Industry	3.55	1000sqft	0.08	3550	0
Enclosed Parking with Elevator	1,291.00	Space	11.62	516,400.00	0
High Turnover (Sit Down Restaurant)	14.19	1000sqft	0.33	14,190.00	0

**Trip Summary Information**

<i>Land Uses</i>	<i>Average Daily Trip Rate</i>			<i>Annual VMT</i>
	<i>Weekday</i>	<i>Saturday</i>	<i>Sunday</i>	
Enclosed Parking with Elevator	0.0	0.0	0.0	0
General Light Industry	0.0	0.0	0.0	0
General Office Building	0.0	0.0	0.0	0
High Turnover (Sit Down Restaurant)	0	0	0	0
User Defined Commercial	5,196	5,196	5,196	13,560,936
<b>Total</b>	<b>5,196</b>	<b>5,196</b>	<b>5,196</b>	<b>13,560,936</b>

**Gasoline and Diesel Usage**

	<i>Gasoline</i>	<i>Diesel</i>
<i>Miles/Gallon</i>	29.1	11.6
<i>% Fleet Mix</i>	92.5%	7.5%
<b>Total (Gallons):</b>	<b>430,699</b>	<b>87,230</b>

Note: Fleet mix is 92.3% gasoline @ 30.6 miles/gallon and 7.7% diesel @ 12.1 miles/gallon.

**Energy by Land Use - Natural Gas**

<i>Land Uses</i>	<i>kBTU/yr</i>	<i>cu ft/year</i>
Enclosed Parking with Elevator	0	0
General Light Industry	59,409	56,580
General Office Building	4,055,130	3,862,029
High Turnover (Sit Down Restaurant)	3,213,500	3,060,476
User Defined Commercial	0	0
<b>Total</b>	<b>7,328,039</b>	<b>6,979,085</b>

**Energy by Land Use - Electricity**

<i>Land Uses</i>	<i>kWH/yr</i>
Enclosed Parking with Elevator	1,529,060
General Light Industry	38,606
General Office Building	5,400,810
High Turnover (Sit Down Restaurant)	614,839
User Defined Commercial	0
<b>Total</b>	<b>7,583,315</b>

**Water Detail (Unmitigated)**

<i>Land Uses</i>	<i>Indoor Use (Mgal)</i>	<i>Outdoor Use (Mgal)</i>	<i>Electricity Use (kWh/yr)</i>
Enclosed Parking with Elevator	0.000	0.000	0
General Light Industry	0.821	0.000	9,121
General Office Building	76.609	46.954	1,307,916
High Turnover (Sit Down Restaurant)	4.307	0.275	50,531
User Defined Commercial	0.000	0.000	0
<b>Total</b>	<b>81.74</b>	<b>47.23</b>	<b>1,367,568</b>

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

Sunset and Wilcox - Buildout Operations with PDFs  
 Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	431.03	1000sqft	9.90	431,030.00	0
User Defined Commercial	1.00	User Defined U	0.00	0.00	0
General Light Industry	3.55	1000sqft	0.08	3550	0
Enclosed Parking with Elevator	1,291.00	Space	11.62	516,400.00	0
High Turnover (Sit Down Restaurant)	14.19	1000sqft	0.33	14,190.00	0

Trip Summary Information

Land Uses	Average Daily Trip Rate			Mitigated
	Weekday	Saturday	Sunday	
Enclosed Parking with Elevator	0.0	0.0	0.0	0
General Light Industry	0.0	0.0	0.0	0
General Office Building	0.0	0.0	0.0	0
High Turnover (Sit Down Restaurant)	0	0	0	0
User Defined Commercial	3,402	3,402	3,402	8,928,345
<b>Total</b>	<b>3,402</b>	<b>3,402</b>	<b>3,402</b>	<b>8,928,345</b>

Mitigated Gasoline and Diesel Usage

	Gasoline	Diesel
Miles/Gallon	29.1	11.6
% Fleet Mix	92.5%	7.5%
<b>Total (Gallons):</b>	<b>283,567</b>	<b>57,431</b>

Note: Fleet mix is 92.3% gasoline @ 30.6 miles/gallon and 7.7% diesel @ 12.1 miles/gallon.

Energy by Land Use - Natural Gas (Mitigated)

Land Uses	kBTU/yr	cu ft/year
Enclosed Parking with Elevator	0	0
General Light Industry	59,409	56,580
General Office Building	4,055,130	3,862,029
High Turnover (Sit Down Restaurant)	3,213,500	3,060,476
User Defined Commercial	0	0
<b>Total</b>	<b>7,328,039</b>	<b>6,979,085</b>

Energy by Land Use - Electricity (Mitigated)

Land Uses	kWH/yr
Enclosed Parking with Elevator	1,228,260
General Light Industry	35,855
General Office Building	4,994,560
High Turnover (Sit Down Restaurant)	586,920
User Defined Commercial	0
<b>Total</b>	<b>6,845,595</b>

Note: Reduction in electricity usage reflects 2019 Title 24 energy efficiency standards which assumes exceeding 2016 Title 24 requirements by 10 percent for energy efficiency and 25% for lighting.

Water Detail (Unmitigated)

Land Uses	Indoor Use (Mgal)	Outdoor Use (Mgal)	Electricity Use (kWh/yr)
Enclosed Parking with Elevator	0.000	0.000	0
General Light Industry	0.657	0.000	7,297
General Office Building	61.287	37.563	1,046,333
High Turnover (Sit Down Restaurant)	3.446	0.220	40,425
User Defined Commercial	0.000	0.000	0
<b>Total</b>	<b>65.39</b>	<b>37.78</b>	<b>1,094,055</b>

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod). The City of Los Angeles Green Building Code (Chapter IX, Article 9, of the LAMC) requires newly constructed non-residential and high-rise residential buildings to reduce indoor water use by at least 20 percent by: (1) using water saving fixtures or flow restrictions; and/or (2) demonstrating a 20 percent reduction in baseline water use. No reduction was applied to Elysian apartments.

## Peak Electricity Demand Calculations

### Electrical Load Factor Equation

$$f_{Load} = \frac{\text{Average load}}{\text{Maximum load in given time period}}$$

Load Factor (%)<sup>1</sup> **52%**

### Project Electricity Demand (Operational)

	Baseline (Existing)	Project	Net Increase
<b>Annual Demand</b>			
Building (MWh)	335	6,977	6,641
Water (MWh)	63	1,094	1,031
Total (MWh)	398	8,071	7,672

### Average Daily Demand

Building (kWh)	919	19,114	18,196
Water (kWh)	173	2,997	2,824
Total (kWh)	1,092	22,112	21,020

### Average Load

Building (kW)	38	796	758
Water (kW)	7	125	118
Total (kW)	45	921	876

### Peak Load Calculation

Peak Load (kW)	81	1,656	1,656
Systemwide Peak Load (MW)	5,820	5,820	5,820
Percent of Peak			0.028%

<sup>1</sup>2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Commission 2017. Page 11, Figure 6. Visual estimate.

**EMFAC Emission inventories for County**

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: **2023** (Construction Start Year)

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	DSL	0.00	1696.53
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	GAS	1.89	0.00
Los Angeles	2023	LDA	Aggregatec	Aggregatec	DSL	0.00	48.32
Los Angeles	2023	LDA	Aggregatec	Aggregatec	GAS	7786.05	0.00
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.36
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	GAS	995.76	0.00
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	DSL	0.00	17.31
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	GAS	3244.21	0.00
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	DSL	0.00	221.79
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	GAS	568.77	0.00
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	DSL	0.00	95.15
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	GAS	108.29	0.00
Los Angeles	2023	MCY	Aggregatec	Aggregatec	GAS	55.80	0.00
Los Angeles	2023	MDV	Aggregatec	Aggregatec	DSL	0.00	49.25
Los Angeles	2023	MDV	Aggregatec	Aggregatec	GAS	2607.45	0.00
Los Angeles	2023	MH	Aggregatec	Aggregatec	DSL	0.00	11.19
Los Angeles	2023	MH	Aggregatec	Aggregatec	GAS	61.57	0.00
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	DSL	0.00	705.12
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	GAS	254.98	0.00
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	DSL	0.00	37.17
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	GAS	46.21	0.00
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	DSL	0.00	26.30
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	GAS	11.68	0.00
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.24
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	GAS	17.62	0.00
						5,752,498,849	1,061,687,376
Fuel Usage for Project Construction						58,612	222,521
Percentage of County for Construction						0.0010%	0.021%

**EMFAC Emission inventories for County**

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: **2026** (Operational Start Year)

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2026	HHDT	Aggregatec	Aggregatec	DSL	0.00	1706.12
Los Angeles	2026	HHDT	Aggregatec	Aggregatec	GAS	1.98	0.00
Los Angeles	2026	LDA	Aggregatec	Aggregatec	DSL	0.00	49.43
Los Angeles	2026	LDA	Aggregatec	Aggregatec	GAS	7181.31	0.00
Los Angeles	2026	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.27
Los Angeles	2026	LDT1	Aggregatec	Aggregatec	GAS	965.17	0.00
Los Angeles	2026	LDT2	Aggregatec	Aggregatec	DSL	0.00	18.48
Los Angeles	2026	LDT2	Aggregatec	Aggregatec	GAS	2984.26	0.00
Los Angeles	2026	LHDT1	Aggregatec	Aggregatec	DSL	0.00	230.79
Los Angeles	2026	LHDT1	Aggregatec	Aggregatec	GAS	530.41	0.00
Los Angeles	2026	LHDT2	Aggregatec	Aggregatec	DSL	0.00	99.61
Los Angeles	2026	LHDT2	Aggregatec	Aggregatec	GAS	102.88	0.00
Los Angeles	2026	MCY	Aggregatec	Aggregatec	GAS	58.10	0.00
Los Angeles	2026	MDV	Aggregatec	Aggregatec	DSL	0.00	51.68
Los Angeles	2026	MDV	Aggregatec	Aggregatec	GAS	2344.22	0.00
Los Angeles	2026	MH	Aggregatec	Aggregatec	DSL	0.00	11.23
Los Angeles	2026	MH	Aggregatec	Aggregatec	GAS	57.32	0.00
Los Angeles	2026	MHDT	Aggregatec	Aggregatec	DSL	0.00	713.12
Los Angeles	2026	MHDT	Aggregatec	Aggregatec	GAS	240.62	0.00
Los Angeles	2026	OBUS	Aggregatec	Aggregatec	DSL	0.00	37.71
Los Angeles	2026	OBUS	Aggregatec	Aggregatec	GAS	42.00	0.00
Los Angeles	2026	SBUS	Aggregatec	Aggregatec	DSL	0.00	25.74
Los Angeles	2026	SBUS	Aggregatec	Aggregatec	GAS	12.79	0.00
Los Angeles	2026	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.14
Los Angeles	2026	UBUS	Aggregatec	Aggregatec	GAS	16.60	0.00
						5,306,248,478	1,074,676,685
Net Fuel Usage for Project Operation						239,537	48,513
Percentage of County for Operation						0.0045%	0.0045%