Appendix D

Energy Resources Calculations

Angels Landing
Draft EIR
Appendix D
Energy Analysis Spreadsheets

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Angels Landing Project

Summary of Energy Use During Construction

Electricty			
Water Consumption	13,072	kWh	802,360
Temporary Power (lighting, tools)	36,137	kWh	58,555
Total:	**49,209**	kWh	23,973
			-884,888
Gasoline			
On Road	206,976	Gallons	
Off Road	0	Gallons	
Total:	**206,976**	Gallons	
Diesel			
On Road	288,709	Gallons	
Off Road	185,024	Gallons	
Total:	**473,733**	Gallons	
Total Mobile	**680,708**		

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)
Electricity							
Electricity (building)	0	8,340,041	7,547,805	kWh/year	-9%	8,340,041	7,547,805
Electricity (water)	0	831,388	665,109	kWh/year	-20%	831,388	665,109
Electricity Total	**0**	**9,171,429**	**8,212,914**	**kWh/year**	**-10%**	**9,171,429**	**8,212,914**
Natural Gas	**0**	**23,724,261**	**22,478,182**	**cu ft/year**	**-5%**	**23,724,261**	**22,478,182**
Mobile							
Gasoline	0	988,635	473,673	Gallons/year	-52%	988,635	473,673
Diesel	0	200,229	95,933	Gallons/year	-52%	200,229	95,933
Mobile Total	**0**	**1,188,863**	**569,606**	**Gallons/year**	**-52%**	**1,188,863**	**569,607**

Construction Electricity Usage

Caterpillar 40-C4.4 Generator[a]

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)	717
Total Construction (kWh)	36,137
Total Construction (MWh)	36.1

[a]https://www.albancat.com/content/uploads/2014/06/40-C4.4-Spec-Sheet.pdf

Calculation of Diesel Usage During Cosnstruciton (Offroad Equipment):

Phase Name	Off Road Equipment Type	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage	
Demolition	Air Compressors	1	8	78	0.48	0.6	22	198	
Demolition	Concrete/Industrial Saws	1	8	81	0.73	0.6	22	312	
Demolition	Crawler Tractors	1	8	212	0.43	0.6	22	481	
Demolition	Crushing/Proc. Equipment	1	8	85	0.78	0.6	22	350	
Demolition	Excavators	1	8	158	0.38	0.6	22	317	
Demolition	Generator Sets	1	8	84	0.74	0.6	22	328	
Demolition	Rubber Tired Dozers	3	8	247	0.4	0.6	22	1,565	
Demolition	Tractors/Loaders/Backhoes	3	8	97	0.37	0.6	22	568	
Site Preparation	Air Compressors	1	8	78	0.48	0.6	21	189	
Site Preparation	Crawler Tractors	1	8	212	0.43	0.6	21	459	
Site Preparation	Excavators	1	8	158	0.38	0.6	21	303	
Site Preparation	Plate Compactors	2	8	8	0.43	0.6	21	35	
Site Preparation	Skid Steer Loaders	1	8	65	0.37	0.6	21	121	
Site Preparation	Sweepers/Scrubbers	1	8	64	0.46	0.6	21	148	
Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37	0.6	21	181	
Grading	Bore/Drill Rigs	2	8	221	0.5	0.6	174	9,229	
Grading	Cranes	1	8	231	0.29	0.6	174	2,798	
Grading	Crawler Tractors	2	8	212	0.43	0.6	174	7,614	
Grading	Excavators	3	8	158	0.38	0.6	174	7,522	
Grading	Generator Sets	1	8	84	0.74	0.6	174	2,596	
Grading	Plate Compactors	2	8	8	0.43	0.6	174	287	
Grading	Pumps	1	8	84	0.74	0.6	174	2,596	
Grading	Rough Terrain Forklifts	1	8	100	0.4	0.6	174	1,670	
Grading	Rubber Tired Loaders	2	8	203	0.36	0.6	174	6,104	
Grading	Skid Steer Loaders	1	8	65	0.37	0.6	174	1,004	
Grading	Sweepers/Scrubbers	1	8	64	0.46	0.6	174	1,229	
Grading	Tractors/Loaders/Backhoes	1	8	97	0.37	0.6	174	1,499	
Trenching/Utilities/Drainage	Excavators	1	8	158	0.38	0.6	22	317	
Trenching/Utilities/Drainage	Rough Terrain Forklifts	1	8	100	0.4	0.6	22	211	
Trenching/Utilities/Drainage	Trenchers	1	8	78	0.5	0.6	22	206	
Mat Foundation	Air Compressors	2	8	78	0.48	0.6	7	126	
Mat Foundation	Cranes	1	8	231	0.29	0.6	7	113	
Mat Foundation	Generator Sets	2	8	84	0.74	0.6	7	209	
Mat Foundation	Plate Compactors	1	8	8	0.43	0.6	7	6	
Mat Foundation	Rough Terrain Forklifts	2	8	100	0.4	0.6	7	134	
Mat Foundation	Tractors/Loaders/Backhoes	3	8	97	0.37	0.6	7	181	
Mat Foundation	Welders	1	8	46	0.45	0.6	7	35	
Building Construction (Up to Podium)	Air Compressors	2	8	78	0.48	0.6	58	1,042	
Building Construction (Up to Podium)	Cranes	1	8	231	0.29	0.6	58	933	
Building Construction (Up to Podium)	Generator Sets	2	8	84	0.74	0.6	58	1,731	
Building Construction (Up to Podium)	Plate Compactors	1	8	8	0.43	0.6	58	48	
Building Construction (Up to Podium)	Rough Terrain Forklifts	2	8	100	0.4	0.6	58	1,114	
Building Construction (Up to Podium)	Tractors/Loaders/Backhoes	3	8	97	0.37	0.6	58	1,499	
Building Construction (Up to Podium)	Welders	1	8	46	0.45	0.6	58	288	
Building Construction	Air Compressors	3	8	78	0.48	0.6	717	19,328	
Building Construction	Cranes	1	8	231	0.29	0.6	717	11,528	
Building Construction	Generator Sets	2	8	84	0.74	0.6	717	21,393	
Building Construction	Plate Compactors	4	8	8	0.43	0.6	717	2,368	
Building Construction	Pumps	2	8	84	0.74	0.6	717	21,393	
Building Construction	Rough Terrain Forklifts	4	8	100	0.4	0.6	717	27,533	
Building Construction	Tractors/Loaders/Backhoes	1	8	97	0.37	0.6	717	6,176	
Building Construction	Trenchers	1	8	78	0.5	0.6	717	6,711	
Building Construction	Welders	1	8	46	0.45	0.6	717	3,562	
Paving/Landscape	Air Compressors	1	8	78	0.48	0.6	129	1,159	
Paving/Landscape	Rollers	1	8	80	0.38	0.6	129	941	
Paving/Landscape	Signal Boards	1	8	6	0.82	0.6	129	152	
Paving/Landscape	Surfacing Equipment	2	8	263	0.3	0.6	129	4,885	
						Total Diesel Usage for Construction (Offr		**185,023.8**	**gallons of diesel fuel**

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.

EMFAC2014 Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2022
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	6,370,883	246,404,319	30,101,253	7,990	0	30.8
South Coast	LDT1	GAS	Aggregate	716,397	26,563,675	3,305,301	1,003	0	26.5
South Coast	LDT2	GAS	Aggregate	2,182,002	82,381,240	10,234,301	3,340	0	24.7
						Construction Worker Trip (Composite LDA/LDT1/LDT2):			**28.2**
South Coast	HHDT	DSL	Aggregate	98,508	11,795,119	994,225	0	1763.0	**6.7**

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 construciton as EMFAC2011 has specific categories for vehicle class T7.

Calculation of Gasoline and Diesel Usage During Phase 1 Construction (Onroad Vehicles):

Phase Name	Daily Woker Trips	Daily Vendor Trips	Days	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Trip Length (miles)			Total Length (miles)			Avg. Daily Factor	Gallons of Fuel	
							Worker	Vendor	Haul	Worker	Vendor	Haul	(worker and vendor)	Gasoline	Diesel
Demolition	30	0	22	660	0	500	14.7	6.9	24	9702	0	12000	0.6	206.4	1,793.6
Site Preparation	20	0	21	420	0	40	14.7	6.9	24	6174	0	960	0.6	131.3	143.5
Grading	45	0	174	7830	0	55666	14.7	6.9	24	115101	0	1335984	0.6	2,448.4	199,686.1
Trenching/Utilities/Drainage	8	10	22	176	220	0	14.7	6.9	20	2587.2	1518	0	0.6	55.0	136.1
Mat Foundation	50	398	7	350	2786	0	14.7	6.9	20	5145	19223.4	0	0.6	109.4	1,724.0
Building Construction (Up to Podium)	100	100	58	5800	5800	0	14.7	6.9	20	85260	40020	0	0.6	1,813.6	3,589.0
Building Construction	850	184	717	609450	131928	0	14.7	6.9	20	8958915	910303.2	0	0.6	190,571.6	81,636.4
Architectural Coating	132	0	282	37224	0	0	14.7	6.9	20	547192.8	0	0	0.6	11,639.7	0.0
Paving/Landscape	13	20	129	1677	2580	0	14.7	6.9	20	24651.9	17802	0	0.6	524.4	1,596.5
													Total:	**206,975.6**	**288,708.8**

Worker Miles per gallon=	28.21	gasoline
Vedor/Haul miles per gallon=	6.69	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 Distrubed	Gallons Per Year	Electricity (kWhr)
Demolition	22	2.0	132,880	1,293
Site Preparation	21	2.0	126,840	1,234
Grading	174	2.0	1,050,960	10,223
Trenching/Utilities/Drainage	22	0.5	33,220	323
Mat Foundation	7	0	0	0
Building Construction (Up to Podium)	58	0	0	0
Building Construction	717	0	0	0
		Total:	**1,343,900**	**13,072**

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).

EMFAC2014 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

					MPG	Gallons Per Mile
Totals	457,731,340.49		14,537.67	2,944.32	**26.2**	0.04
Total (GAS)	423,620,640.66	0.93			**29.1**	0.03
Total (DSL)	34,110,699.83	0.07			**11.6**	0.09

Baseline Year
Calendar Year: 2019
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	2019	Annual	HHDT	DSL	Aggregated	Aggregated	92,086	11,035,510	918,238	0.00	1,756.36
South Coast	2019	Annual	HHDT	GAS	Aggregated	Aggregated	101	7,659	2,026	2.00	0.00
South Coast	2019	Annual	LDA	DSL	Aggregated	Aggregated	45,875	1,896,329	216,399	0.00	42.12
South Coast	2019	Annual	LDA	GAS	Aggregated	Aggregated	6,081,048	244,446,391	28,695,373	8,546.80	0.00
South Coast	2019	Annual	LDT1	DSL	Aggregated	Aggregated	482	11,462	1,689	0.00	0.52
South Coast	2019	Annual	LDT1	GAS	Aggregated	Aggregated	651,943	24,807,246	2,983,370	1,008.68	0.00
South Coast	2019	Annual	LDT2	DSL	Aggregated	Aggregated	9,665	445,810	48,035	0.00	13.63
South Coast	2019	Annual	LDT2	GAS	Aggregated	Aggregated	2,073,197	80,872,282	9,694,322	3,631.58	0.00
South Coast	2019	Annual	LHDT1	DSL	Aggregated	Aggregated	97,013	4,044,995	1,220,296	0.00	195.55
South Coast	2019	Annual	LHDT1	GAS	Aggregated	Aggregated	175,207	6,463,196	2,610,330	629.75	0.00
South Coast	2019	Annual	LHDT2	DSL	Aggregated	Aggregated	37,900	1,552,333	476,734	0.00	83.01
South Coast	2019	Annual	LHDT2	GAS	Aggregated	Aggregated	28,635	1,024,337	426,614	114.60	0.00
South Coast	2019	Annual	MCY	GAS	Aggregated	Aggregated	259,354	1,869,286	518,708	51.29	0.00
South Coast	2019	Annual	MDV	DSL	Aggregated	Aggregated	23,710	1,023,301	117,204	0.00	40.71
South Coast	2019	Annual	MDV	GAS	Aggregated	Aggregated	1,497,221	54,845,361	6,911,949	2,999.26	0.00
South Coast	2019	Annual	MH	DSL	Aggregated	Aggregated	11,071	110,800	1,107	0.00	10.76
South Coast	2019	Annual	MH	GAS	Aggregated	Aggregated	35,590	335,289	3,560	67.31	0.00
South Coast	2019	Annual	MHDT	DSL	Aggregated	Aggregated	114,051	7,128,971	1,136,926	0.00	714.72
South Coast	2019	Annual	MHDT	GAS	Aggregated	Aggregated	24,591	1,348,347	492,013	274.04	0.00
South Coast	2019	Annual	OBUS	DSL	Aggregated	Aggregated	4,004	293,205	39,273	0.00	37.06
South Coast	2019	Annual	OBUS	GAS	Aggregated	Aggregated	5,873	259,979	117,514	53.24	0.00
South Coast	2019	Annual	SBUS	DSL	Aggregated	Aggregated	6,233	197,082	71,923	0.00	26.67
South Coast	2019	Annual	SBUS	GAS	Aggregated	Aggregated	2,128	88,942	8,510	9.98	0.00
South Coast	2019	Annual	UBUS	DSL	Aggregated	Aggregated	18	1,877	73	0.00	0.30
South Coast	2019	Annual	UBUS	GAS	Aggregated	Aggregated	931	87,702	3,725	18.65	0.00

					MPG	Gallons Per Mile
Totals	444,197,691.29		17,407.18	2,921.42	**21.9**	0.05
Total (GAS)	416,456,015.85	0.94			**23.9**	0.04
Total (DSL)	27,741,675.44	0.06			**9.5**	0.11

Angels Landing - Buildout Operations Without Project Features
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
User Defined Commercial	1	User Defined	0.00	0	0
Enclosed Parking with Elevator	750	Space	0	300,000	0
High Turnover (Sit Down Restaurant)	41.63	1000 SF	0	41,625	0
Hotel	515	Room	0	470,117	
Condo/Townhouse High Rise	432	Dwelling Unit	5.5	726,942	1236
User Defined Residential	1	Dwelling Unit	0	-	
Strip Mall	30.47	1000 SF	0	30,466	

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
User Defined Commercial	727	865	701	27,045
Enclosed Parking with Elevator	0	0	0	0
High Turnover (Sit Down Restaurant)	0	0	0	0
Hotel	0	0	0	0
Condo/Townhouse High Rise	0	0	0	0
User Defined Residential	11,823	14,061	11,394	31,100,990
Strip Mall	0	0	0	0
Total	12,550	14,926	12,095	31,128,035

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	29.1	11.6
% Fleet Mix	92.5%	7.5%
Total (Gallons):	**988,635**	**200,229**

Energy by Land Use - Natural Gas

Land Uses	*kBTU/yr*	cu ft/year
User Defined Commercial	0.0	0
Enclosed Parking with Elevator	0.0	0
High Turnover (Sit Down Restaurant)	9605390.0	9,147,990
Hotel	11273400.0	10,736,571
Condo/Townhouse High Rise	3981720.0	3,792,114
User Defined Residential	0.0	0
Strip Mall	49964.2	47,585
Total	24,910,474	**23,724,261**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
User Defined Commercial	0
Enclosed Parking with Elevator	705,000
High Turnover (Sit Down Restaurant)	1,837,330
Hotel	3,563,490
Condo/Townhouse High Rise	1,822,930
User Defined Residential	0
Strip Mall	411,291
Total	**8,340,041**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
User Defined Commercial	0.000	0.000	0
Enclosed Parking with Elevator	0.000	0.000	0
High Turnover (Sit Down Restaurant)	12.636	0.807	148,245
Hotel	13.064	1.452	159,272
Condo/Townhouse High Rise	28.147	17.745	485,337
User Defined Residential	0.000	0.000	0
Strip Mall	2.257	1.383	38,533
Total	56.10	21.39	**831,388**

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).

Angels Landing - Buildout Operations
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
User Defined Commercial	1	User Defined	0.00	0	0
Enclosed Parking with Elevator	750	Space	0	300,000	-
High Turnover (Sit Down Restaurant)	41.63	1000 SF	0	41,625	-
Hotel	515	Room	0	470,117	
Condo/Townhouse High Rise	432	Dwelling Unit	5.5	726,942	1,236
User Defined Residential	1	Dwelling Unit	0	-	
Strip Mall	30.47	1000 SF	0	30,466	

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Mitigated*
	Weekday	*Saturday*	*Sunday*	
User Defined Commercial	727	865	701	27,045
Enclosed Parking with Elevator	-	-	-	-
High Turnover (Sit Down Restaurant)	-	-	-	-
Hotel	-	-	-	-
Condo/Townhouse High Rise	-	-	-	-
User Defined Residential	5,410	6,434	5,214	14,886,966
Strip Mall	0	0	0	0
Total	6,137	7,299	5,915	14,914,011

Mitigated Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	29.1	11.6
% Fleet Mix	92.5%	7.5%
Total (Gallons):	**473,673**	**95,933**

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
User Defined Commercial	0	0
Enclosed Parking with Elevator	0	0
High Turnover (Sit Down Restaurant)	9,426,480	8,977,600
Hotel	10,336,900	9,844,667
Condo/Townhouse High Rise	3,792,250	3,611,667
User Defined Residential	0.0	0
Strip Mall	46460.6	44,248
Total	23,602,091	**22,478,182**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
User Defined Commercial	0
Enclosed Parking with Elevator	574,950
High Turnover (Sit Down Restaurant)	1,721,670
Hotel	3,192,090
Condo/Townhouse High Rise	1,707,700
User Defined Residential	0
Strip Mall	351,395
Total	**7,547,805**

Note: Reduction in electricity usage reflects implementation of CalGreen and GHG-PDF-1 (Exceed Title 24, Part 6, CEC baseline requriements by 10 percent for energy efficiency, based on 2016 standards and 25% for lighting).

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
User Defined Commercial	0.000	0.000	0
Enclosed Parking with Elevator	0.000	0.000	0
High Turnover (Sit Down Restaurant)	10.109	0.645	118,596
Hotel	10.451	1.161	127,417
Condo/Townhouse High Rise	22.517	14.196	388,269
User Defined Residential	0.000	0.000	0
Strip Mall	1.806	1.107	30,826
Total	44.88	17.11	**665,109**

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 ofelectricity 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.

Peak Electricity Demand Calculations

Electrical Load Factor Equation

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

Load Factor (%)[1] **52%**

Project Electricity Demand (Operational)

Annual Demand	Baseline (Existing)	Project
Building (MWh)	0	7,548
Water (MWh)	0	665
Total (MWh)	0	8,213
Average Daily Demand		
Building (kWh)	0	20,679
Water (kWh)	0	1,822
Total (kWh)	0	22,501
Average Load		
Building (kW)	0	862
Water (kW)	0	76
Total (kW)	0	938

Peak Load Calculation

Peak Load (kW)[2]	0	1,733
Systemwide Peak Load (MW)		5,820
Percent of Peak		0.030%

[1]2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Co 2017. Page 11, Figure 6. Visual estimate.

[2] Peak Load is conservatively calculated without any reductions from removal of existing uses.

EMFAC Emission inventories for County

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: **2022** (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	2022	HHDT	Aggregatec	Aggregatec	DSL	0.00	1762.99
Los Angeles	2022	HHDT	Aggregatec	Aggregatec	GAS	1.88	0.00
Los Angeles	2022	LDA	Aggregatec	Aggregatec	DSL	0.00	47.39
Los Angeles	2022	LDA	Aggregatec	Aggregatec	GAS	7989.70	0.00
Los Angeles	2022	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.39
Los Angeles	2022	LDT1	Aggregatec	Aggregatec	GAS	1003.18	0.00
Los Angeles	2022	LDT2	Aggregatec	Aggregatec	DSL	0.00	16.65
Los Angeles	2022	LDT2	Aggregatec	Aggregatec	GAS	3339.89	0.00
Los Angeles	2022	LHDT1	Aggregatec	Aggregatec	DSL	0.00	217.11
Los Angeles	2022	LHDT1	Aggregatec	Aggregatec	GAS	583.23	0.00
Los Angeles	2022	LHDT2	Aggregatec	Aggregatec	DSL	0.00	92.89
Los Angeles	2022	LHDT2	Aggregatec	Aggregatec	GAS	110.13	0.00
Los Angeles	2022	MCY	Aggregatec	Aggregatec	GAS	54.92	0.00
Los Angeles	2022	MDV	Aggregatec	Aggregatec	DSL	0.00	47.80
Los Angeles	2022	MDV	Aggregatec	Aggregatec	GAS	2704.45	0.00
Los Angeles	2022	MH	Aggregatec	Aggregatec	DSL	0.00	11.12
Los Angeles	2022	MH	Aggregatec	Aggregatec	GAS	62.96	0.00
Los Angeles	2022	MHDT	Aggregatec	Aggregatec	DSL	0.00	720.16
Los Angeles	2022	MHDT	Aggregatec	Aggregatec	GAS	259.39	0.00
Los Angeles	2022	OBUS	Aggregatec	Aggregatec	DSL	0.00	37.46
Los Angeles	2022	OBUS	Aggregatec	Aggregatec	GAS	47.77	0.00
Los Angeles	2022	SBUS	Aggregatec	Aggregatec	DSL	0.00	26.42
Los Angeles	2022	SBUS	Aggregatec	Aggregatec	GAS	11.27	0.00
Los Angeles	2022	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.25
Los Angeles	2022	UBUS	Aggregatec	Aggregatec	GAS	18.40	0.00
						5,908,313,954	1,087,928,967
					Fuel Usage for Project Construction	206,976	473,733
					Percentage of County for Construction	0.0035%	0.044%

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	473,673	95,933
					Percentage of County for Operation	0.0089%	0.0089%