Appendix IS-5

Energy

Appendix IS-5.1

Energy

8th & Alameda Project

Summary of Energy Use During Construction

Electricty		
Water Consumption	21,180	kWh
Temporary Power (lighting, tools)	24,091	kWh
Total:	**45,271**	kWh
Gasoline		
On Road	156,754	Gallons
Off Road	0	Gallons
Total:	**156,754**	Gallons
Diesel		
On Road	98,267	Gallons
Off Road	152,955	Gallons
Total:	**251,222**	Gallons
Total Mobile	**407,976**	

Summary of Energy Use During Operations

		Existing Uses (Buildout Year)	Buildout Without Project Features/MXD	Buildout With Project Features/MXD	Project Without Project Features/MXD	Project With Project Features/MXD		Percent Reduction due to Project Features
Electricity								
Electricity (building)		7,558,148	11,198,891	10,195,955	3,640,743	2,637,807	kWh/year	-9%
Electricity (water)		1,496,429	1,844,335	1,844,335	347,906	347,906	kWh/year	0%
EV Chargers			3,011	3,011	3,011	3,011	kWh/year	
Solar Panels				-839,044		-839,044	kWh/year	
	Electricity Total	**9,054,577**	**13,046,237**	**11,204,258**	**3,991,660**	**2,149,680**	**kWh/year**	**-14%**
Natural Gas								
Natural Gas (building)		10,982,381	12,001,536	12,001,536	1,019,155	1,019,155		
	Natural Gas Total	**10,982,381**	**12,001,536**	**12,001,536**	**1,019,155**	**1,019,155**	**cu ft/year**	**0%**
Mobile								
Gasoline		231,657	376,300	288,528	144,643	56,870	Gallons/year	-23%
Diesel		38,809	63,041	48,337	24,232	9,527	Gallons/year	-23%
	Mobile Total	**270,466**	**439,341**	**336,864**	**168,874**	**66,398**	**Gallons/year**	**-23%**

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)	478
Total Construction (kWh)	24,091
Total Construction (MWh)	24.1

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

8th & Alameda Project

Phase Name	Off Road Equipment Type	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage
New Buildings-Demolition	Concrete/Industrial Saws	0	8	81	0.73	0.6	60	0
New Buildings-Demolition	Excavators	2	8	158	0.38	0.6	60	1,729
New Buildings-Demolition	Other Construction Equipment	1	1	172	0.42	0.6	60	130
New Buildings-Demolition	Rubber Tired Dozers	2	8	247	0.4	0.6	60	2,845
New Buildings-Demolition	Rubber Tired Loaders	2	6	203	0.36	0.6	60	1,579
New Buildings-Demolition	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	60	1,034
Parking Garage-Demolition	Concrete/Industrial Saws	0	8	81	0.73	0.6	28	0
Parking Garage-Demolition	Excavators	2	8	158	0.38	0.6	28	807
Parking Garage-Demolition	Other Construction Equipment	1	1	172	0.42	0.6	28	61
Parking Garage-Demolition	Rubber Tired Dozers	2	8	247	0.4	0.6	28	1,328
Parking Garage-Demolition	Rubber Tired Loaders	2	6	203	0.36	0.6	28	737
Parking Garage-Demolition	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	28	482
Existing Buildings-Demolition	Air Compressors	4	8	78	0.48	0.6	115	4,133
Existing Buildings-Demolition	Concrete/Industrial Saws	0	8	81	0.73	0.6	115	0
Existing Buildings-Demolition	Excavators	0	8	158	0.38	0.6	115	0
Existing Buildings-Demolition	Rubber Tired Dozers	0	8	247	0.4	0.6	115	0
Existing Buildings-Demolition	Rubber Tired Loaders	2	6	203	0.36	0.6	115	3,026
Parking Garage-Grading & Utilities	Excavators	1	8	158	0.38	0.6	29	418
Parking Garage-Grading & Utilities	Graders	1	8	187	0.41	0.6	29	534
Parking Garage-Grading & Utilities	Other Construction Equipment	1	1	172	0.42	0.6	29	63
Parking Garage-Grading & Utilities	Rubber Tired Loaders	2	8	203	0.36	0.6	29	1,017
Parking Garage-Grading & Utilities	Scrapers	0	8	367	0.48	0.6	29	0
Parking Garage-Grading & Utilities	Tractors/Loaders/Backhoes	0	8	97	0.37	0.6	29	0
Parking Garage-Foundation/Structure	Air Compressors	1	8	78	0.48	0.6	137	1,231
Parking Garage-Foundation/Structure	Bore/Drill Rigs	1	8	221	0.5	0.6	137	3,633
Parking Garage-Foundation/Structure	Cement and Mortar Mixers	2	8	9	0.56	0.6	137	331
Parking Garage-Foundation/Structure	Concrete/Industrial Saws	1	8	81	0.73	0.6	137	1,944
Parking Garage-Foundation/Structure	Cranes	1	7	231	0.29	0.6	137	1,927
Parking Garage-Foundation/Structure	Forklifts	3	8	89	0.2	0.6	137	1,756
Parking Garage-Foundation/Structure	Generator Sets	0	8	84	0.74	0.6	137	0
Parking Garage-Foundation/Structure	Plate Compactors	2	8	8	0.43	0.6	137	226
Parking Garage-Foundation/Structure	Pumps	1	8	84	0.74	0.6	137	2,044
Parking Garage-Foundation/Structure	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	137	0
Parking Garage-Foundation/Structure	Welders	2	8	46	0.45	0.6	137	1,361
New Buildings-Grading & Utilities	Excavators	1	8	158	0.38	0.6	60	865
New Buildings-Grading & Utilities	Graders	1	8	187	0.41	0.6	60	1,104
New Buildings-Grading & Utilities	Other Construction Equipment	1	1	172	0.42	0.6	60	130
New Buildings-Grading & Utilities	Rubber Tired Dozers	2	8	247	0.4	0.6	60	2,845
New Buildings-Grading & Utilities	Rubber Tired Loaders	2	8	203	0.36	0.6	60	2,105
New Buildings-Grading & Utilities	Tractors/Loaders/Backhoes	0	8	97	0.37	0.6	60	0
New Buildings-Grading & Utilities	Trenchers	1	8	78	0.5	0.6	60	562
Existing Buildings-Structural Upgrades	Cement and Mortar Mixers	2	8	9	0.56	0.6	229	554
Existing Buildings-Structural Upgrades	Concrete/Industrial Saws	1	8	81	0.73	0.6	229	3,250
Existing Buildings-Structural Upgrades	Cranes	1	7	231	0.29	0.6	229	3,222
Existing Buildings-Structural Upgrades	Excavators	1	8	158	0.38	0.6	229	3,300
Existing Buildings-Structural Upgrades	Forklifts	2	8	89	0.2	0.6	229	1,957
Existing Buildings-Structural Upgrades	Generator Sets	0	8	84	0.74	0.6	229	0
Existing Buildings-Structural Upgrades	Plate Compactors	2	8	8	0.43	0.6	229	378
Existing Buildings-Structural Upgrades	Rough Terrain Forklifts	2	8	100	0.4	0.6	229	4,397
Existing Buildings-Structural Upgrades	Skid Steer Loaders	2	8	65	0.37	0.6	229	2,644
Existing Buildings-Structural Upgrades	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	229	0
Existing Buildings-Structural Upgrades	Welders	2	8	46	0.45	0.6	229	2,275
New Buildings-Foundation/Structure	Air Compressors	1	8	78	0.48	0.6	250	2,246
New Buildings-Foundation/Structure	Bore/Drill Rigs	1	8	221	0.5	0.6	250	6,630
New Buildings-Foundation/Structure	Cement and Mortar Mixers	2	8	9	0.56	0.6	250	605
New Buildings-Foundation/Structure	Concrete/Industrial Saws	1	8	81	0.73	0.6	250	3,548
New Buildings-Foundation/Structure	Cranes	1	7	231	0.29	0.6	250	3,517
New Buildings-Foundation/Structure	Forklifts	3	8	89	0.2	0.6	250	3,204
New Buildings-Foundation/Structure	Generator Sets	0	8	84	0.74	0.6	250	0
New Buildings-Foundation/Structure	Plate Compactors	2	8	8	0.43	0.6	250	413
New Buildings-Foundation/Structure	Pumps	1	8	84	0.74	0.6	250	3,730
New Buildings-Foundation/Structure	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	250	0
New Buildings-Foundation/Structure	Welders	2	8	46	0.45	0.6	250	2,484
Parking Garage-Interior	Aerial Lifts	3	8	63	0.31	0.6	115	1,617
Parking Garage-Interior	Air Compressors	3	8	78	0.48	0.6	115	3,100
Parking Garage-Interior	Cranes	1	7	231	0.29	0.6	115	1,618
Parking Garage-Interior	Forklifts	3	8	89	0.2	0.6	115	1,474
Parking Garage-Interior	Generator Sets	0	8	84	0.74	0.6	115	0
Parking Garage-Interior	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	115	0
Parking Garage-Interior	Welders	2	8	46	0.45	0.6	115	1,143
Architectural Coating	Air Compressors	0	6	78	0.48	0.6	478	0
Parking Garage-Paving/Landscape	Cement and Mortar Mixers	1	8	9	0.56	0.6	20	24
Parking Garage-Paving/Landscape	Concrete/Industrial Saws	1	8	81	0.73	0.6	20	284
Parking Garage-Paving/Landscape	Forklifts	1	8	89	0.2	0.6	20	85
Parking Garage-Paving/Landscape	Other Construction Equipment	1	1	172	0.42	0.6	20	43
Parking Garage-Paving/Landscape	Pavers	0	8	130	0.42	0.6	20	0
Parking Garage-Paving/Landscape	Paving Equipment	1	8	132	0.36	0.6	20	228
Parking Garage-Paving/Landscape	Rollers	0	8	80	0.38	0.6	20	0
Parking Garage-Paving/Landscape	Skid Steer Loaders	1	8	65	0.37	0.6	20	115
Existing Buildings-Interior	Aerial Lifts	3	8	63	0.31	0.6	373	5,245
Existing Buildings-Interior	Air Compressors	3	8	78	0.48	0.6	373	10,055
Existing Buildings-Interior	Cranes	1	7	231	0.29	0.6	373	5,247
Existing Buildings-Interior	Forklifts	3	8	89	0.2	0.6	373	4,780
Existing Buildings-Interior	Generator Sets	0	8	84	0.74	0.6	373	0
Existing Buildings-Interior	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	373	0
Existing Buildings-Interior	Welders	2	8	46	0.45	0.6	373	3,706
New Buildings-Interior	Aerial Lifts	3	8	63	0.31	0.6	232	3,262
New Buildings-Interior	Air Compressors	3	8	78	0.48	0.6	232	6,254

New Buildings-Interior	Cranes	1	7	231	0.29	0.6	232	3,264	
New Buildings-Interior	Forklifts	3	8	89	0.2	0.6	232	2,973	
New Buildings-Interior	Generator Sets	0	8	84	0.74	0.6	232	0	
New Buildings-Interior	Tractors/Loaders/Backhoes	0	7	97	0.37	0.6	232	0	
New Buildings-Interior	Welders	2	8	46	0.45	0.6	232	2,305	
New Buildings-Paving/Landscape	Cement and Mortar Mixers	1	8	9	0.56	0.6	28	34	
New Buildings-Paving/Landscape	Concrete/Industrial Saws	1	8	81	0.73	0.6	28	397	
New Buildings-Paving/Landscape	Forklifts	1	8	89	0.2	0.6	28	120	
New Buildings-Paving/Landscape	Other Construction Equipment	1	1	172	0.42	0.6	28	61	
New Buildings-Paving/Landscape	Pavers	0	8	130	0.42	0.6	28	0	
New Buildings-Paving/Landscape	Paving Equipment	1	8	132	0.36	0.6	28	319	
New Buildings-Paving/Landscape	Rollers	0	8	80	0.38	0.6	28	0	
New Buildings-Paving/Landscape	Skid Steer Loaders	1	8	65	0.37	0.6	28	162	
Existing Buildings-Paving/Landscape	Cement and Mortar Mixers	1	8	9	0.56	0.6	23	28	
Existing Buildings-Paving/Landscape	Concrete/Industrial Saws	1	8	81	0.73	0.6	23	326	
Existing Buildings-Paving/Landscape	Forklifts	1	8	89	0.2	0.6	23	98	
Existing Buildings-Paving/Landscape	Other Construction Equipment	1	1	172	0.42	0.6	23	50	
Existing Buildings-Paving/Landscape	Pavers	0	8	130	0.42	0.6	23	0	
Existing Buildings-Paving/Landscape	Paving Equipment	1	8	132	0.36	0.6	23	262	
Existing Buildings-Paving/Landscape	Rollers	0	8	80	0.38	0.6	23	0	
Existing Buildings-Paving/Landscape	Skid Steer Loaders	1	8	65	0.37	0.6	23	133	
						Total Diesel Usage for Construction (Offr		**152,955.0**	**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.

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	4,079,718	153,812,692	19,249,547	4,944	0	31.1
South Coast	LDT1	GAS	Aggregate	480,760	17,733,494	2,225,423	662	0	26.8
South Coast	LDT2	GAS	Aggregate	1,420,578	53,205,335	6,674,513	2,112	0	25.2
						Construction Worker Trip (Composite LDA/LDT1/LDT2):			**28.6**
South Coast	HHDT	DSL	Aggregate	59,068	7,175,177	592,244	0	1026.9	**7.0**

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.

8th & Alameda Project

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
New Buildings-Demolition	40	40	60	2400	2400	0	14.7	24	20	35280	57600	0	0.6	741.4	4,946.3
Parking Garage-Demolition	40	40	28	1120	1120	0	14.7	24	20	16464	26880	0	0.6	346.0	2,308.3
Existing Buildings-Demolition	60	40	115	6900	4600	0	14.7	24	20	101430	110400	0	0.6	2,131.4	9,480.5
Parking Garage-Grading & Utilities	60	40	29	1740	1160	0	14.7	59	20	25578	68440	0	0.6	537.5	5,877.2
Parking Garage-Foundation/Structure	80	150	137	10960	20550	0	14.7	6.9	20	161112	141795	0	0.6	3,385.5	12,176.5
New Buildings-Grading & Utilities	60	30	60	3600	1800	0	14.7	59	20	52920	106200	0	0.6	1,112.0	9,119.8
													Total:	**156,753.6**	**98,267.3**

Worker Miles per gallon=	28.55	gasoline
Vedor/Haul miles per gallon=	6.99	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).

8th & Alameda Project

Phase	Days	Average Daily Acreage Distrubed	Gallons Per Year	Electricity (kWhr)
New Buildings-Demolition	60	2.0	362,400	3,525
Parking Garage-Demolition	28	2.0	169,120	1,645
Existing Buildings-Demolition	115	2.0	694,600	6,756
Parking Garage-Grading & Utilities	29	3.0	262,740	2,556
Parking Garage-Foundation/Structure	137	0.0	0	0
New Buildings-Grading & Utilities	60	3.0	543,600	5,288
Existing Buildings-Structural Upgrades	229	0.0	0	0
New Buildings-Foundation/Structure	250	0.0	0	0
Parking Garage-Interior	115	0.0	0	0
Architectural Coating	478	0.0	0	0
Parking Garage-Paving/Landscape	20	1.0	60,400	588
Existing Buildings-Interior	373	0.0	0	0
New Buildings-Interior	232	0.0	0	0
New Buildings-Paving/Landscape	28	1.0	84,560	823
Existing Buildings-Paving/Landscape	23	0.0	0	0
		Total:	**2,177,420**	**21,180**

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: 2021
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	2021	Annual	HHDT	DSL	Aggregated	Aggregated	57,398	6,891,921	574,782	0.00	1,076.08
South Coast	2021	Annual	HHDT	GAS	Aggregated	Aggregated	58	5,770	1,165	1.44	0.00
South Coast	2021	Annual	LDA	DSL	Aggregated	Aggregated	33,365	1,336,170	157,696	0.00	29.00
South Coast	2021	Annual	LDA	GAS	Aggregated	Aggregated	3,998,083	154,957,028	18,859,046	5,253.04	0.00
South Coast	2021	Annual	LDT1	DSL	Aggregated	Aggregated	297	7,338	1,056	0.00	0.34
South Coast	2021	Annual	LDT1	GAS	Aggregated	Aggregated	451,923	17,065,391	2,083,893	670.36	0.00
South Coast	2021	Annual	LDT2	DSL	Aggregated	Aggregated	8,126	355,535	40,235	0.00	10.51
South Coast	2021	Annual	LDT2	GAS	Aggregated	Aggregated	1,370,276	52,553,142	6,426,189	2,238.86	0.00
South Coast	2021	Annual	LHDT1	DSL	Aggregated	Aggregated	61,699	2,667,215	776,094	0.00	124.56
South Coast	2021	Annual	LHDT1	GAS	Aggregated	Aggregated	108,026	3,955,472	1,609,426	382.70	0.00
South Coast	2021	Annual	LHDT2	DSL	Aggregated	Aggregated	24,848	1,035,823	312,551	0.00	53.69
South Coast	2021	Annual	LHDT2	GAS	Aggregated	Aggregated	17,947	636,046	267,386	70.62	0.00
South Coast	2021	Annual	MCY	GAS	Aggregated	Aggregated	174,734	1,259,346	349,467	35.18	0.00
South Coast	2021	Annual	MDV	DSL	Aggregated	Aggregated	18,030	734,379	88,959	0.00	28.12
South Coast	2021	Annual	MDV	GAS	Aggregated	Aggregated	932,037	33,105,799	4,313,561	1,730.99	0.00
South Coast	2021	Annual	MH	DSL	Aggregated	Aggregated	5,838	61,474	584	0.00	5.92
South Coast	2021	Annual	MH	GAS	Aggregated	Aggregated	19,738	198,097	1,975	39.18	0.00
South Coast	2021	Annual	MHDT	DSL	Aggregated	Aggregated	66,201	4,146,737	650,607	0.00	407.55
South Coast	2021	Annual	MHDT	GAS	Aggregated	Aggregated	14,590	807,950	291,912	162.46	0.00
South Coast	2021	Annual	OBUS	DSL	Aggregated	Aggregated	3,099	233,603	30,392	0.00	28.77
South Coast	2021	Annual	OBUS	GAS	Aggregated	Aggregated	4,044	172,164	80,905	34.91	0.00
South Coast	2021	Annual	SBUS	DSL	Aggregated	Aggregated	3,837	121,324	44,275	0.00	16.10
South Coast	2021	Annual	SBUS	GAS	Aggregated	Aggregated	1,290	53,467	5,160	5.87	0.00
South Coast	2021	Annual	UBUS	DSL	Aggregated	Aggregated	37	5,105	149	0.00	0.81
South Coast	2021	Annual	UBUS	GAS	Aggregated	Aggregated	458	33,383	1,834	8.04	0.00

				MPG	Gallons Per Mile
Totals	282,399,682.21		10,633.65	1,781.44	**22.7**	0.04
Total (GAS)	264,803,056.81	0.94			**24.9**	0.04
Total (DSL)	17,596,625.39	0.06			**9.9**	0.10

Baseline Year
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	62,369	7,578,127	634,806	0.00	1,028.60
South Coast	2026	Annual	HHDT	GAS	Aggregated	Aggregated	51	6,638	1,027	1.47	0.00
South Coast	2026	Annual	LDA	DSL	Aggregated	Aggregated	42,630	1,610,941	203,194	0.00	30.77
South Coast	2026	Annual	LDA	GAS	Aggregated	Aggregated	4,187,856	151,809,382	19,744,735	4,507.99	0.00
South Coast	2026	Annual	LDT1	DSL	Aggregated	Aggregated	197	4,860	713	0.00	0.21
South Coast	2026	Annual	LDT1	GAS	Aggregated	Aggregated	521,800	18,505,352	2,419,987	642.25	0.00
South Coast	2026	Annual	LDT2	DSL	Aggregated	Aggregated	12,201	472,831	59,382	0.00	12.25
South Coast	2026	Annual	LDT2	GAS	Aggregated	Aggregated	1,500,003	54,105,074	7,049,551	1,946.71	0.00
South Coast	2026	Annual	LHDT1	DSL	Aggregated	Aggregated	84,469	3,343,657	1,062,512	0.00	144.51
South Coast	2026	Annual	LHDT1	GAS	Aggregated	Aggregated	107,091	3,784,881	1,595,490	343.72	0.00
South Coast	2026	Annual	LHDT2	DSL	Aggregated	Aggregated	34,322	1,304,546	431,723	0.00	62.67
South Coast	2026	Annual	LHDT2	GAS	Aggregated	Aggregated	18,657	635,998	277,964	66.38	0.00
South Coast	2026	Annual	MCY	GAS	Aggregated	Aggregated	207,061	1,375,740	414,121	38.76	0.00
South Coast	2026	Annual	MDV	DSL	Aggregated	Aggregated	26,599	968,712	129,119	0.00	32.43
South Coast	2026	Annual	MDV	GAS	Aggregated	Aggregated	980,977	33,032,008	4,562,971	1,467.67	0.00
South Coast	2026	Annual	MH	DSL	Aggregated	Aggregated	7,292	72,793	729	0.00	6.54
South Coast	2026	Annual	MH	GAS	Aggregated	Aggregated	19,677	198,229	1,969	36.25	0.00
South Coast	2026	Annual	MHDT	DSL	Aggregated	Aggregated	75,062	4,647,457	748,261	0.00	402.70
South Coast	2026	Annual	MHDT	GAS	Aggregated	Aggregated	15,276	832,630	305,646	154.65	0.00
South Coast	2026	Annual	OBUS	DSL	Aggregated	Aggregated	3,576	262,677	34,848	0.00	28.87
South Coast	2026	Annual	OBUS	GAS	Aggregated	Aggregated	4,005	155,211	80,123	29.21	0.00
South Coast	2026	Annual	SBUS	DSL	Aggregated	Aggregated	3,950	124,602	45,584	0.00	15.64
South Coast	2026	Annual	SBUS	GAS	Aggregated	Aggregated	1,808	70,232	7,231	7.32	0.00
South Coast	2026	Annual	UBUS	DSL	Aggregated	Aggregated	27	4,009	108	0.00	0.59
South Coast	2026	Annual	UBUS	GAS	Aggregated	Aggregated	475	34,374	1,900	7.11	0.00

				MPG	Gallons Per Mile
Totals	284,940,959.31		9,249.49	1,765.78	**25.9**	0.04
Total (GAS)	264,545,748.64	0.93			**28.6**	0.03
Total (DSL)	20,395,210.67	0.07			**11.6**	0.09

8th & Alameda (Existing)

Los Angeles-South Coast County, Annual

Trip Summary Information

Total	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
Total	**2,933.00**	**555.00**	**286.00**	**6,152,161**

Gasoline and Diesel Usage

	Buildout Year		Existing (Baseline) Year	
	Gasoline	*Diesel*	*Gasoline*	*Diesel*
Miles/Gallon	24.9	9.9	28.6	11.6
% Fleet Mix	93.8%	6.2%	92.8%	7.2%
Total (Gallons):	**231,657**	**38,809**	**199,706**	**38,125**

Energy by Land Use - Natural Gas

Total	*kBTU/yr*	cu ft/year
Total	**11,531,500**	**10,982,381**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
Total	7,558,148

Water Detail

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Total	134.68	0.00	1,496,429

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).

8th & Alameda- Buildout Operations Without Project Features/MXD
Los Angeles-South Coast County, Annual

	Average Daily Trip Rate			Annual VMT
	Weekday	*Saturday*	*Sunday*	
Project	4,620	969	444	9,993,460
Total	4,620	969	444	9,993,460

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	24.9	9.9
% Fleet Mix	93.8%	6.2%
Total (Gallons):	**376,300**	**63,041**

Energy by Land Use - Natural Gas

	kBTU/yr	cu ft/year
Land Uses	12,601,613	**12,001,536**
Total	12,601,613	**12,001,536**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
Total	**11,198,891**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Total	135.32	35.03	**1,844,335**

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).

8th & Alameda Project - Buildout Operations with Project Fetures and MXD (No MMs)
Los Angeles-South Coast County, Annual

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Mitigated*
	Weekday	*Saturday*	*Sunday*	
Project	3,511	736	338	7,662,480
Total	3,511	736	338	7,662,480

Mitigated Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	24.9	9.9
% Fleet Mix	93.8%	6.2%
Total (Gallons):	**288,528**	**48,337**

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)

	kBTU/yr	cu ft/year
Land Uses	12,601,613	12,001,536
Total	12,601,613	**12,001,536**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
Total	**10,195,955**

Note: Reduction in electricity usage reflects implementation of CalGreen and GHG-PDF-1 (Exceed baseline requirements for lighting by 25%).

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Total	135.32	35.03	1,844,335

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)	7,558	2,638
Water (MWh)	1,496	348
Total (MWh)	9,055	12,043
Average Daily Demand		
Building (kWh)	20,707	7,227
Water (kWh)	4,100	953
Total (kWh)	24,807	32,995
Average Load		
Building (kW)	863	301
Water (kW)	171	40
Total (kW)	1,034	1,375

Peak Load Calculation

Peak Load (kW)[2]	1,830	619
Systemwide Peak Load (MW)		5,854
Percent of Peak		0.011%

[1]2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Cor 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: **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	1026.93
Los Angeles	2023	HHDT	Aggregatec	Aggregatec	GAS	1.43	0.00
Los Angeles	2023	LDA	Aggregatec	Aggregatec	DSL	0.00	30.23
Los Angeles	2023	LDA	Aggregatec	Aggregatec	GAS	4943.66	0.00
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.28
Los Angeles	2023	LDT1	Aggregatec	Aggregatec	GAS	661.89	0.00
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	DSL	0.00	11.48
Los Angeles	2023	LDT2	Aggregatec	Aggregatec	GAS	2111.84	0.00
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	DSL	0.00	134.84
Los Angeles	2023	LHDT1	Aggregatec	Aggregatec	GAS	366.24	0.00
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	DSL	0.00	58.29
Los Angeles	2023	LHDT2	Aggregatec	Aggregatec	GAS	69.12	0.00
Los Angeles	2023	MCY	Aggregatec	Aggregatec	GAS	36.85	0.00
Los Angeles	2023	MDV	Aggregatec	Aggregatec	DSL	0.00	30.50
Los Angeles	2023	MDV	Aggregatec	Aggregatec	GAS	1617.67	0.00
Los Angeles	2023	MH	Aggregatec	Aggregatec	DSL	0.00	6.25
Los Angeles	2023	MH	Aggregatec	Aggregatec	GAS	38.12	0.00
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	DSL	0.00	396.57
Los Angeles	2023	MHDT	Aggregatec	Aggregatec	GAS	159.42	0.00
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.42
Los Angeles	2023	OBUS	Aggregatec	Aggregatec	GAS	32.39	0.00
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	DSL	0.00	16.02
Los Angeles	2023	SBUS	Aggregatec	Aggregatec	GAS	6.51	0.00
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.81
Los Angeles	2023	UBUS	Aggregatec	Aggregatec	GAS	7.76	0.00
						3,669,304,439	635,325,862
					Fuel Usage for Project Construction	97,457	152,448
					Percentage of County for Construction	0.0027%	0.024%

EMFAC Emission inventories for County

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: **2025** (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	2025	HHDT	Aggregatec	Aggregatec	DSL	0.00	1030.97
Los Angeles	2025	HHDT	Aggregatec	Aggregatec	GAS	1.45	0.00
Los Angeles	2025	LDA	Aggregatec	Aggregatec	DSL	0.00	30.79
Los Angeles	2025	LDA	Aggregatec	Aggregatec	GAS	4654.49	0.00
Los Angeles	2025	LDT1	Aggregatec	Aggregatec	DSL	0.00	0.24
Los Angeles	2025	LDT1	Aggregatec	Aggregatec	GAS	650.83	0.00
Los Angeles	2025	LDT2	Aggregatec	Aggregatec	DSL	0.00	12.08
Los Angeles	2025	LDT2	Aggregatec	Aggregatec	GAS	2001.79	0.00
Los Angeles	2025	LHDT1	Aggregatec	Aggregatec	DSL	0.00	142.00
Los Angeles	2025	LHDT1	Aggregatec	Aggregatec	GAS	351.35	0.00
Los Angeles	2025	LHDT2	Aggregatec	Aggregatec	DSL	0.00	61.53
Los Angeles	2025	LHDT2	Aggregatec	Aggregatec	GAS	67.40	0.00
Los Angeles	2025	MCY	Aggregatec	Aggregatec	GAS	38.25	0.00
Los Angeles	2025	MDV	Aggregatec	Aggregatec	DSL	0.00	32.04
Los Angeles	2025	MDV	Aggregatec	Aggregatec	GAS	1517.42	0.00
Los Angeles	2025	MH	Aggregatec	Aggregatec	DSL	0.00	6.46
Los Angeles	2025	MH	Aggregatec	Aggregatec	GAS	36.85	0.00
Los Angeles	2025	MHDT	Aggregatec	Aggregatec	DSL	0.00	401.74
Los Angeles	2025	MHDT	Aggregatec	Aggregatec	GAS	156.13	0.00
Los Angeles	2025	OBUS	Aggregatec	Aggregatec	DSL	0.00	28.85
Los Angeles	2025	OBUS	Aggregatec	Aggregatec	GAS	30.17	0.00
Los Angeles	2025	SBUS	Aggregatec	Aggregatec	DSL	0.00	15.80
Los Angeles	2025	SBUS	Aggregatec	Aggregatec	GAS	7.06	0.00
Los Angeles	2025	UBUS	Aggregatec	Aggregatec	DSL	0.00	0.59
Los Angeles	2025	UBUS	Aggregatec	Aggregatec	GAS	7.09	0.00
						3,474,906,889	643,523,976
					Net Fuel Usage for Project Operation	288,528	48,337
					Percentage of County for Operation	0.0083%	0.0075%

Appendix IS-5.2

DWP Power Will Serve

POWER NEW BUSINESS
DEVELOPMENT AND
TECHNOLOGY
APPLICATIONS DIVISION

SERVICE PLANNING & CUSTOMER
SUPPORT SUBSECTION

METROPOLITAN EAST SERVICE PLANNING
2633 Artesian Street, Suite 210, Los Angeles, CA 90031 (213) 367-6000 FAX: (213) 367-6027

Jeffrey T. Bergman
District Engineer

WILL SERVE

March 3, 2021

Ms. Taylor Anne Miller
David Evans and Associates, Inc.
201 South Figueroa Street, Suite 240
Los Angeles, CA 90012

Dear Ms. Miller:

820 South Alameda Street
Commercial Development

This is in response to your email dated March 2, 2021 regarding electric service for the proposed project at the above address.

Electric service is available and will be provided in accordance with the Los Angeles Department of Water and Power Rules and Regulations. The estimated power requirement for this proposed project is part of the total load growth forecast for the City and has been taken into account in the planned growth of the power system.

If you have any questions regarding this matter, please call Mr. Jimmy He at (213) 367-6257.

Sincerely,

Jeff Bergman/PB

Jeffrey T. Bergman
District Engineer, Metro East Service Planning

c: Jimmy He
ESR Area 206

Appendix IS-5.3

SoCalGas Will Serve

701 N. Bullis Rd.
Compton, CA 90224-9099

March 9, 2021

David Evans and Associates, Inc.
201 South Figueroa St, Suite 240
Los Angeles, CA 90012
Attn: Taylor Anne Miller

Subject: Will Serve - 820 S. Alameda St Los Angeles, CA 90021

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Thank you for inquiring about the availability of natural gas service for your project. We are pleased to inform you that Southern California Gas Company (SoCalGas) has facilities in the area where the above named project is being proposed. The service would be in accordance with SoCalGas' policies and extension rules on file with the California Public Utilities Commission (CPUC) at the time contractual arrangements are made.

This letter should not be considered a contractual commitment to serve the proposed project, and is only provided for informational purposes only. The availability of natural gas service is based upon natural gas supply conditions and is subject to changes in law or regulation. As a public utility, SoCalGas is under the jurisdiction of the Commission and certain federal regulatory agencies, and gas service will be provided in accordance with the rules and regulations in effect at the time service is provided. Natural gas service is also subject to environmental regulations, which could affect the construction of a main or service line extension (for example, if hazardous wastes were encountered in the process of installing the line). Applicable regulations will be determined once a contract with SoCalGas is executed.

If you need assistance choosing the appropriate gas equipment for your project, or would like to discuss the most effective applications of energy efficiency techniques, please contact our area Service Center at 800-427-2200.

Thank you again for choosing clean, reliable, and safe natural gas, your best energy value.

Sincerely,

Jason Sum

Jason Sum
Pipeline Planning Assistant
SoCalGas-Compton HQ