

Appendix D

Energy

Wilshire & Cloverdale Project

Draft EIR

Appendix D

Energy Analysis Spreadsheets

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Wilshire & Cloverdale

Summary of Energy Use During Construction

Electricity	
Water Consumption	3,026 kWh
Temporary Power (lighting, tools)	18,094 kWh
Electric Equipment	5,079 kWh
Total:	26,199 kWh
Gasoline	
On Road	90,616 Gallons
Off Road	0 Gallons
Total:	90,616 Gallons
Diesel	
On Road	287,579 Gallons
Off Road	66,827 Gallons
Total:	354,406 Gallons
Total Mobile	445,022

Summary of Energy Use During Operations

	Existing (Baseline Year)	Existing (Buildout Year)	Buildout All Electric	Project (Buildout SCAQMD Rule 1146.2 and GHG-PDF-1 - Existing (Buildout Year))	Units
Electricity					
Electricity (building)	989,185	989,185	4,914,028	3,924,843	kWh/year
Electricity (water)	60,507	60,507	154,724	94,217	kWh/year
EV Charging	0	0	85,520	85,520	kWh/year
Electricity Total	1,049,692	1,049,692	5,154,271	4,104,579	kWh/year
Natural Gas	1,978,797	1,978,797	2,893,525	914,728	cu ft/year
Mobile					
Gasoline	169,234	153,348	319,544	166,196	Gallons/year
Diesel	25,886	26,671	55,576	28,906	Gallons/year
Mobile Total	195,120	180,019	375,121	195,102	Gallons/year

Construction Electricity Usage

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)	359
Total Construction (kWh)	18,094
Total Construction (MWh)	18.1

^a<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	33	0.73	0.6	20	116
Demolition	Excavators	2	8	158	0.38	0.6	20	576
Demolition	Other Construction Equipment	1	8	82	0.42	0.6	20	165
Demolition	Rubber Tired Loaders	1	8	150	0.36	0.6	20	259
Demolition	Generator	1	8	14	0.74	0.6	20	50
Grading	Bore/Drill Rigs	1	8	83	0.5	0.6	184	1,833
Grading	Cranes	1	8	367	0.29	0.6	184	4,700
Grading	Excavators	2	8	158	0.38	0.6	184	5,303
Grading	Forklifts	1	8	82	0.2	0.6	184	724
Grading	Other Construction Equipment	1	8	82	0.42	0.6	184	1,521
Grading	Pumps	4	8	11	0.74	0.6	184	1,438
Grading	Rubber Tired Dozers	1	8	367	0.4	0.6	184	6,483
Grading	Rubber Tired Loaders	1	8	150	0.36	0.6	184	2,385
Grading	Welders	2	8	46	0.45	0.6	184	1,828
Grading	Generator	1	8	14	0.74	0.6	184	457
Mat Foundation	Cement and Mortar Mixers	2	24	10	0.56	0.6	10	81
Mat Foundation	Pumps	6	24	11	0.74	0.6	10	352
Mat Foundation	Plate Compactors	6	24	8	0.43	0.6	10	149
Building Foundation	Cement and Mortar Mixers	2	8	10	0.56	0.6	133	358
Building Foundation	Concrete/Industrial Saws	1	8	33	0.73	0.6	133	769
Building Foundation	Forklifts	2	8	82	0.2	0.6	133	1,047
Building Foundation	Pumps	2	8	11	0.74	0.6	133	520
Building Foundation	Welders	2	8	46	0.45	0.6	133	1,321
Building Foundation	Plate Compactors	4	8	8	0.43	0.6	133	439
Building Construction	Air Compressors	4	8	37	0.48	0.6	359	6,121
Building Construction	Aerial Lifts	4	8	46	0.31	0.6	359	4,915
Building Construction	Cement and Mortar Mixers	1	8	10	0.56	0.6	359	482
Building Construction	Concrete/Industrial Saws	1	8	33	0.73	0.6	359	2,076
Building Construction	Forklifts	2	8	82	0.2	0.6	359	2,826
Building Construction	Pumps	2	8	11	0.74	0.6	359	1,403
Building Construction	Plate Compactors	4	8	8	0.43	0.6	359	1,186
Building Construction	Skid Steer Loaders	1	8	71	0.37	0.6	359	2,263
Building Construction	Welders	2	8	46	0.45	0.6	359	3,567
Building Renovation	Aerial Lifts	1	8	46	0.31	0.6	171	585
Building Renovation	Air Compressors	1	8	37	0.48	0.6	171	729
Building Renovation	Forklifts	1	8	82	0.2	0.6	171	673
Building Renovation	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	171	1,276
Building Renovation	Welders	1	8	46	0.45	0.6	171	850
Paving	Cement and Mortar Mixers	1	8	10	0.56	0.6	71	95
Paving	Pavers	1	8	81	0.42	0.6	71	580
Paving	Paving Equipment	1	8	89	0.36	0.6	71	546
Paving	Plate Compactors	2	8	8	0.43	0.6	71	117
Paving	Rollers	1	8	36	0.38	0.6	71	233
Paving	Skid Steer Loaders	1	8	71	0.37	0.6	71	448
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	71	530
Offsite Drainage Installation	Excavators	1	8	36	0.38	0.6	43	141
Offsite Drainage Installation	Other Construction Equipment	1	8	82	0.42	0.6	43	355
Offsite Drainage Installation	Rubber Tired Loaders	1	8	150	0.36	0.6	43	557
Offsite Drainage Installation	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	43	321
Offsite Paving	Pavers	1	8	81	0.42	0.6	11	90
Offsite Paving	Paving Equipment	1	8	89	0.36	0.6	11	85
Offsite Paving	Rollers	1	8	36	0.38	0.6	11	36
Offsite Paving	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	11	82
Offsite Excavation	Excavators	1	8	36	0.38	0.6	22	72
Offsite Excavation	Other Construction Equipment	1	8	82	0.42	0.6	22	182
Offsite Excavation	Rubber Tired Loaders	1	8	150	0.36	0.6	22	285
Offsite Excavation	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	22	164
Total Diesel Usage for Construction (Offr								66,827.1
								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.

EMFAC2021 Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2026

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	Gasoline	Aggregate	3,294,447	129,517,422	15,284,837	4,349	0	29.8
South Coast	LDT1	Gasoline	Aggregate	309,047	11,251,578	1,361,992	452	0	24.9
South Coast	LDT2	Gasoline	Aggregate	1,657,464	68,121,910	7,802,414	2,800	0	24.3
Construction Worker Trip (Composite LDA/LDT1/LDT2):									27.2
South Coast	HHDT	Diesel	Aggregate	56,774	7,075,238	888,983	0	1137.4	6.2

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	Daily Haul 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	50	0	40	20	1000	0	800	18.5	10.2	29.4	18500	0	23520	0.6	408.2	3,781.0
Grading	50	0	260	184	9200	0	47840	18.5	10.2	29.4	170200	0	1406496	0.6	3,755.9	226,103.6
Mat Foundation	50	1200	0	10	500	12000	0	18.5	10.2	29.4	9250	122400	0	0.6	204.1	11,806.0
Building Foundation	175	200	0	133	23275	26600	0	18.5	10.2	29.4	430587.5	271320	0	0.6	9,501.9	26,169.9
Building Construction	500	30	0	359	179500	10770	0	18.5	10.2	29.4	3320750	109854	0	0.6	73,280.2	10,595.9
Building Renovation	20	30	0	171	3420	5130	0	18.5	10.2	29.4	63270	52326	0	0.6	1,396.2	5,047.1
Paving	50	30	0	71	3550	2130	0	18.5	10.2	29.4	65675	21726	0	0.6	1,449.3	2,095.6
Architectural Coating	0	0	0	106	0	0	0	18.5	10.2	29.4	0	0	0	0.6	0.0	0.0
Offsite Drainage Installation	20	6	6	43	860	258	258	18.5	10.2	29.4	15910	2631.6	7585.2	0.6	351.1	1,473.2
Offsite Excavation	20	6	6	11	220	66	66	18.5	10.2	29.4	4070	673.2	1940.4	0.6	89.8	376.9
Offsite Paving	20	6	22		440	132	0	18.5	10.2	29.4	8140	1346.4	0	0.6	179.6	129.9
Total:															90,616.4	287,578.9

Worker Miles per gallon= 27.19 gasoline
Vedor/Haul miles per gallon= 6.22 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	20	0.5	30,200	294
Grading	184	0.5	277,840	2,703
Mat Foundation	10	0.1	3,020	29
Building Foundation	133	0	0	0
Building Construction	359	0	0	0
Building Renovation	171	0	0	0
Paving	71	0	0	0
Architectural Coating	106	0	0	0
Offsite Drainage Installation	43	0.2	25,972	253
Offsite Excavation	11	0.2	6,644	65
Offsite Paving	22	0	0	0
Total:			311,060	3,026

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).

Wilshire & Cloverdale - Existing Operations (Baseline and Buildout Years)
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>
Strip Mall	20	1000sqft	0.46	20000	
High Turnover (Sit Down Restaurant)	18.9	1000sqft	0.43	18900	0
General Office Building	9.4	1000sqft	0.22	9400	
Parking Lot	28.253	1000sqft	0.65	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>	
Total	1,841.00	1,841.00	1,841.00	4,251,885

Gasoline and Diesel Usage

	<i>Existing (Buildout Year)</i>		<i>Existing (Baseline) Year</i>	
	<i>Gasoline</i>	<i>Diesel</i>	<i>Gasoline</i>	<i>Diesel</i>
<i>Miles/Gallon</i>	26.1	9.1	23.8	8.4
<i>% Fleet Mix</i>	94.3%	5.7%	94.9%	5.1%
Total (Gallons):	153,348	26,671	169,234	25,886

Energy by Land Use - Natural Gas Existing (Baseline and Buildout Years)

<i>Land Uses</i>	<i>kBTU/yr</i>	<i>cu ft/year</i>
Strip Mall	98,483	93,793
High Turnover (Sit Down Restaurant)	1,790,390	1,705,133
General Office Building	188,863	179,870
Parking Lot	0	0
Total	2,077,736	1,978,797

Energy by Land Use - Electricity Existing (Baseline and Buildout Years)

<i>Land Uses</i>	<i>kWH/yr</i>
Strip Mall	199,131
High Turnover (Sit Down Restaurant)	615,575
General Office Building	149,730
Parking Lot	24,750
Total	989,185

Water - Detail Existing (Baseline and Buildout Years)

<i>Land Uses</i>	<i>Indoor Use</i>	<i>Outdoor</i>	<i>Electricity</i>
	<i>(Mgal)</i>	<i>Use (Mgal)</i>	<i>Use (kWh/yr)</i>
Strip Mall	1.481	0.000	10,084
High Turnover (Sit Down Restaurant)	5.737	0.000	39,050
General Office Building	1.671	0.000	11,372
Parking Lot	0.000	0.000	0
Total	8.889	0.000	60,507

Notes: Indoor water results in 0.00687 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.005306 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

Wilshire & Cloverdale - Buildout Operations SCAQMD
Rule 1146.2 and GHG-PDF-1 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>
Apartments High Rise	419	Dwelling Unit	1.74	375464	986
High Turnover (Sit Down Restaurant)	36.737	1000sqft	0	36737	
Enclosed Parking with Elevator	443	Space	3.986999828	177200	
Other Non-Asphalt Surfaces	35.666	1000sqft	0.81877868	0	
Recreational Swimming Pool	2.455	1000sqft	0	2455	
General Office Building	8	1000sqft	0	8000	

Trip Summary Information

<i>Land Uses</i>	<i>Average Daily Trip Rate</i>			<i>Mitigated</i>
	<i>Weekday</i>	<i>Saturday</i>	<i>Sunday</i>	
Total	3,936	3,936	3,936	8,860,010

Mitigated Gasoline and Diesel Usage

	<i>Gasoline</i>	<i>Diesel</i>
<i>Miles/Gallon</i>	26.1	9.1
<i>% Fleet Mix</i>	94.3%	5.7%
Total (Gallons):	319,544	55,576

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)

<i>Land Uses</i>	<i>kBTU/yr</i>	<i>cu ft/year</i>
Apartments High Rise	0	0
High Turnover (Sit Down Restaurant)	2,578,937	2,456,130
Enclosed Parking with Elevator	0	0
Other Non-Asphalt Surfaces	0	0
Recreational Swimming Pool	459,264	437,394
General Office Building	0	0
Total	3,038,201	2,893,525

Energy by Land Use - Electricity (Mitigated)

<i>Land Uses</i>	<i>kWH/yr</i>
Apartments High Rise	1,653,099
High Turnover (Sit Down Restaurant)	1,885,640
Enclosed Parking with Elevator	654,122
Other Non-Asphalt Surfaces	0
Recreational Swimming Pool	543,505
General Office Building	177,662
Total	4,914,028

Water Detail (Unmitigated)

<i>Land Uses</i>	<i>Indoor Use (Mgal)</i>	<i>Outdoor Use (Mgal)</i>	<i>Electricity Use (kWh/yr)</i>
Apartments High Rise	12.494	0.079	85,467
High Turnover (Sit Down Restaurant)	8.921	0.000	60,723
Enclosed Parking with Elevator	0.000	0.000	0
Other Non-Asphalt Surfaces	0.000	0.000	0
Recreational Swimming Pool	0.116	0.000	791
General Office Building	1.137	0.000	7,743
Total	22.67	0.08	154,724

Notes: Indoor water results in 0.00687 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.005306 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.

EMFAC2021 Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2029

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)	
Los Angeles	2029	Annual	HHDT	Diesel	Aggregated	Aggregated	59,448	7,349,581	935,828	0.00	1,128.39	
Los Angeles	2029	Annual	HHDT	Gasoline	Aggregated	Aggregated	23	2,196	459	0.48	0.00	
Los Angeles	2029	Annual	LDA	Diesel	Aggregated	Aggregated	5,229	162,799	22,267	0.00	3.77	
Los Angeles	2029	Annual	LDA	Gasoline	Aggregated	Aggregated	3,174,510	123,546,649	14,711,781	3,965.78	0.00	
Los Angeles	2029	Annual	LDT1	Diesel	Aggregated	Aggregated	15	320	44	0.00	0.01	
Los Angeles	2029	Annual	LDT1	Gasoline	Aggregated	Aggregated	297,597	10,793,531	1,314,671	415.02	0.00	
Los Angeles	2029	Annual	LDT2	Diesel	Aggregated	Aggregated	6,099	253,165	29,112	0.00	7.64	
Los Angeles	2029	Annual	LDT2	Gasoline	Aggregated	Aggregated	1,752,550	70,903,010	8,231,547	2,783.98	0.00	
Los Angeles	2029	Annual	LHDT1	Diesel	Aggregated	Aggregated	70,154	2,966,019	882,447	0.00	141.74	
Los Angeles	2029	Annual	LHDT1	Gasoline	Aggregated	Aggregated	124,868	4,933,698	1,860,348	332.50	0.00	
Los Angeles	2029	Annual	LHDT2	Diesel	Aggregated	Aggregated	32,758	1,344,062	412,052	0.00	75.52	
Los Angeles	2029	Annual	LHDT2	Gasoline	Aggregated	Aggregated	18,591	685,895	276,975	53.18	0.00	
Los Angeles	2029	Annual	MCY	Gasoline	Aggregated	Aggregated	166,932	1,065,914	333,864	25.53	0.00	
Los Angeles	2029	Annual	MDV	Diesel	Aggregated	Aggregated	11,792	445,486	55,078	0.00	17.84	
Los Angeles	2029	Annual	MDV	Gasoline	Aggregated	Aggregated	1,018,028	38,576,342	4,733,561	1,853.90	0.00	
Los Angeles	2029	Annual	MH	Diesel	Aggregated	Aggregated	6,383	67,007	638	0.00	6.73	
Los Angeles	2029	Annual	MH	Gasoline	Aggregated	Aggregated	14,068	147,795	1,407	30.51	0.00	
Los Angeles	2029	Annual	MHDT	Diesel	Aggregated	Aggregated	64,457	2,595,181	794,546	0.00	284.57	
Los Angeles	2029	Annual	MHDT	Gasoline	Aggregated	Aggregated	13,050	705,189	261,103	129.91	0.00	
Los Angeles	2029	Annual	OBUS	Diesel	Aggregated	Aggregated	2,370	171,530	31,510	0.00	23.67	
Los Angeles	2029	Annual	OBUS	Gasoline	Aggregated	Aggregated	3,178	113,787	63,579	21.56	0.00	
Los Angeles	2029	Annual	SBUS	Diesel	Aggregated	Aggregated	1,606	32,735	23,261	0.00	4.35	
Los Angeles	2029	Annual	SBUS	Gasoline	Aggregated	Aggregated	1,563	71,007	6,252	7.74	0.00	
Los Angeles	2029	Annual	UBUS	Diesel	Aggregated	Aggregated	8	1,453	33	0.00	0.26	
Los Angeles	2029	Annual	UBUS	Gasoline	Aggregated	Aggregated	430	30,381	1,719	6.53	0.00	
Los Angeles	2029	Annual	LDA	Plug-in Hybrid	Aggregated	Aggregated	118,069	2,313,735	488,214	84.35	0.00	
Los Angeles	2029	Annual	LDT1	Plug-in Hybrid	Aggregated	Aggregated	1,736	34,397	7,180	1.26	0.00	
Los Angeles	2029	Annual	LDT2	Plug-in Hybrid	Aggregated	Aggregated	26,936	523,674	111,379	19.27	0.00	
Los Angeles	2029	Annual	MDV	Plug-in Hybrid	Aggregated	Aggregated	16,516	300,700	68,294	11.23	0.00	
							Totals	270,137,240.84		9,742.75	1,694.50	MPG Gallons Per Mile
							Total (GAS)	254,747,902.37	0.94			23.6 0.04
							Total (DSL)	15,389,338.47	0.06			26.1 0.04
												9.1 0.11

Baseline Year

Calendar Year: 2023

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)	
Los Angeles	2023	Annual	HHDT	Diesel	Aggregated	Aggregated	51,746	6,735,516	804,221	0.00	1,127.80	
Los Angeles	2023	Annual	HHDT	Gasoline	Aggregated	Aggregated	52	3,245	1,050	0.82	0.00	
Los Angeles	2023	Annual	LDA	Diesel	Aggregated	Aggregated	9,775	293,631	40,275	0.00	7.39	
Los Angeles	2023	Annual	LDA	Gasoline	Aggregated	Aggregated	3,441,157	137,073,184	16,009,115	4,845.08	0.00	
Los Angeles	2023	Annual	LDT1	Diesel	Aggregated	Aggregated	135	2,742	393	0.00	0.12	
Los Angeles	2023	Annual	LDT1	Gasoline	Aggregated	Aggregated	323,318	11,785,010	1,422,834	497.89	0.00	
Los Angeles	2023	Annual	LDT2	Diesel	Aggregated	Aggregated	4,736	207,450	22,903	0.00	6.82	
Los Angeles	2023	Annual	LDT2	Gasoline	Aggregated	Aggregated	1,558,893	64,432,894	7,331,380	2,816.72	0.00	
Los Angeles	2023	Annual	LHDT1	Diesel	Aggregated	Aggregated	54,739	2,400,706	688,551	0.00	118.37	
Los Angeles	2023	Annual	LHDT1	Gasoline	Aggregated	Aggregated	126,299	4,975,896	1,881,670	379.01	0.00	
Los Angeles	2023	Annual	LHDT2	Diesel	Aggregated	Aggregated	24,419	1,058,012	307,155	0.00	62.09	
Los Angeles	2023	Annual	LHDT2	Gasoline	Aggregated	Aggregated	19,347	720,926	288,247	62.66	0.00	
Los Angeles	2023	Annual	MCY	Gasoline	Aggregated	Aggregated	147,384	966,253	294,767	23.59	0.00	
Los Angeles	2023	Annual	MDV	Diesel	Aggregated	Aggregated	10,935	433,865	51,746	0.00	18.92	
Los Angeles	2023	Annual	MDV	Gasoline	Aggregated	Aggregated	951,501	36,274,737	4,402,600	1,944.85	0.00	
Los Angeles	2023	Annual	MH	Diesel	Aggregated	Aggregated	5,471	56,805	547	0.00	5.69	
Los Angeles	2023	Annual	MH	Gasoline	Aggregated	Aggregated	16,465	159,232	1,647	32.88	0.00	
Los Angeles	2023	Annual	MHDT	Diesel	Aggregated	Aggregated	60,070	2,566,786	735,674	0.00	288.96	
Los Angeles	2023	Annual	MHDT	Gasoline	Aggregated	Aggregated	15,250	833,770	305,130	163.55	0.00	
Los Angeles	2023	Annual	OBUS	Diesel	Aggregated	Aggregated	2,107	170,067	27,221	0.00	24.73	
Los Angeles	2023	Annual	OBUS	Gasoline	Aggregated	Aggregated	3,862	157,361	77,280	31.50	0.00	
Los Angeles	2023	Annual	SBUS	Diesel	Aggregated	Aggregated	2,010	41,462	29,104	0.00	5.64	
Los Angeles	2023	Annual	SBUS	Gasoline	Aggregated	Aggregated	1,386	64,114	5,545	7.17	0.00	
Los Angeles	2023	Annual	UBUS	Diesel	Aggregated	Aggregated	45	7,197	180	0.00	1.18	
Los Angeles	2023	Annual	UBUS	Gasoline	Aggregated	Aggregated	439	31,153	1,755	6.81	0.00	
Los Angeles	2023	Annual	LDA	Plug-in Hybrid	Aggregated	Aggregated	86,566	2,058,404	357,950	75.01	0.00	
Los Angeles	2023	Annual	LDT1	Plug-in Hybrid	Aggregated	Aggregated	309	7,382	1,279	0.27	0.00	
Los Angeles	2023	Annual	LDT2	Plug-in Hybrid	Aggregated	Aggregated	11,316	271,382	46,790	9.96	0.00	
Los Angeles	2023	Annual	MDV	Plug-in Hybrid	Aggregated	Aggregated	6,330	141,006	26,173	5.25	0.00	
							Totals	273,930,189.78		10,903.00	1,667.71	MPG Gallons Per Mile
							Total (GAS)	259,955,950.25	0.95			21.8 0.05
							Total (DSL)	13,974,239.53	0.05			23.8 0.04
												8.4 0.12

Wilshire & Cloverdale

Energy Usage in compliance with SCAQMD Rule 1146.2 and with incorporation of GHG-PDF-1

CAPCOA Consumption Rat

Building Type	Natural Gas (Therm/yr/KSF)							Electricity (kWh/yr/KSF)							
	Water Heater	Primary Heat	Cooking	Dryer	Cooling	Misc	Refrig.		Water Heater	Primary Heat	Cooking	Dryer	Cooling	Misc	Refrig.
Apartment High Rise	268	48	20	17	31	35	NA		1052	350	262	365	205	560	NA
General Office	20	119	1	NA	18	43	1		46	396	9	NA	3103	2714	11
High Turnover (Sit Down Restaurant)	90	37	702	NA	48	67	4		35	268	1279	NA	3254	8965	6236

³ California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity. Appendix C. Table E-15. December 2021. Note: Residential use provides aux. heat which was included under cooling (residential use does not provide a natural gas usage for cooling or refrigeration). In addition, Table E-15 cites that the sample size for several end uses and housing types was limited and should be used with caution.

Project Energy Demand

Project Uses	Amount (DU/KSF)	Natural Gas (Therm/yr/KSF)							Electricity (kWh/yr/KSF)						
		Water Heater	Primary Heat	Cooking	Dryer	Cooling	Misc	Refrig.	Water Heater	Primary Heat	Cooking	Dryer	Cooling	Misc	Refrig.
Apartment High Rise	419	112,292	20,112	8,380	7,123	12,989	14,665	NA	440,788	146,650	109,778	152,935	85,895	234,640	NA
General Office	8	160	952	8	NA	144	344	8	368	3,168	72	NA	24,824	21,712	88
High Turnover (Sit Down Restaurant)	36.737	3,306	1,359	25,789	NA	1,763	2,461	147	1,286	9,846	0	NA	119,542	329,347	229,092
Total		115,758	22,423	34,177	7,123	14,896	17,470	155	442,442	159,664	109,850	152,935	230,261	585,699	229,180

CalEEMod Adjustments

Default Values

Difference between														
CalEEMod and				GHG		GHG		GHG						
CAPCOA natural gas				Emissions		Emissions		Total Natural		Emissions		Emissions		
Total Electricity		Gas	Check	usage	(Electricity)	(Natural Gas)	(Total)	Total Electricity	Gas	(Electricity)	(Gas)	(Total)		
Apartment High Rise	1,375,784	4,158,725	17,556,100	322%	236	221	457	1,653,099	0	284	-	284		
General Office	127,430	160,735	161,600	1%	22	9	30	177,662	0	30	-	30		
High Turnover (Sit Down Restaurant)	1,196,527	3,480,082	3,482,668	0%	205	185	390	1,885,640	2,578,937	324	137	461		
Enclosed Parking with Elevator	654,122	0			112	-	112	654,122	0	112	-	112		
Land Use Total (CalEEMod):	3,353,863	7,799,542			575	415	990	4,370,522	0	750	137	887		
Swimming Pool	17,905	1,752,000			3	93	96	543,505	0	93	-	93		
Fireplaces in Apartments		1,527,255			-	81	81	0	-	-	-	-		
Grills (4) @ 360,000 btu/hr		359,424			-	19	19	359,424	-	19	19	propane or natural gas		
Firepits (4) @ 100,000 btu/hr		99,840			-	5	5	99,840	-	5	5	propane or natural gas		
Total:	3,371,768	11,538,061			579	614	1,192	4,914,027	3,038,201	843	162	1,005		
Difference SCAQMD Rule 1146.2 and GHG-PDF-1 vs CalEEMod Default Factors:								1,542,259	(8,499,860)					
% Increase/Decrease								46%	-74%					

Adjusted Value for Apartment High Rise natural gas usage Includes adjustment for difference between CalEEMod and CAPCOA natural gas usage.

Additional Sources (Calculations)

	Natural Gas (Btu/hr)		Electricity (kWh/yr for an average single-family residential poo		
	Pool and Spa		Heat Pump	Pool Pump	Spa Pump
Swimming Pool	Heat 800,000		525600	2898	683
	Natural Gas (kBtu/yr)		Electricity (kWh/yr)		
	1,752,000		525600	14490	3415 543505

- Pool and Spa heat based on 2 (400,000 btu/hr) natural gas heaters 6 hours per day for 365 days/yr.
- Pool and spa pumps electricity usage is based on 2019 California Residential Appliance Saturation Study, Page 14: <https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-RS05.pdf>
- Project pool and spa are conservatively estimated to be approximately 5 times the average single family residential pool.
- Electric pool heat (heat pump) assumes conversion of 1 therm = 30 kWh.

		Natural Gas	
Units		(kBtu/yr)	
Fireplaces in Apartments	377	1,527,255	
Grills (4) @ 360,000 btu/hr	4	359,424	
Firepits (4) @ 100,000 btu/hr	4	99,840	

Notes:
(1) CalEEMod provide pollutant emissions associated fireplaces, but does not include natural gas usage in output files. The provided usage rate is consistent with CalEEMod default factors (i.e, 90 percent of DU have 60,000 btu/hr fireplaces, operate 25 days per year for three hours per day).
(2) Natural gas grills and firepits are assumed to operate 104 days per year for three hours per day @ 80 percent output.

GHG Emission Factors

Electricity	Natural Gas	
lb/MWh	lb/MMBtu	Global Warming Potential
	375	116.9771 1 CO ₂
	0.0489	0.0104 25 CH ₄
	0.0069	0.0002 298 N ₂ O

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)

	Baseline		Net
Annual Demand	(Existing)	Project	Increase
Building (MWh)	989	5,000	4,010
Water (MWh)	61	155	94
Total (MWh)	1,050	5,154	4,105

Average Daily Demand			
Building (kWh)	2,710	13,697	10,987
Water (kWh)	166	424	258
Total (kWh)	2,876	14,121	11,245

Average Load			
Building (kW)	113	571	458
Water (kW)	7	18	11
Total (kW)	120	588	469

Peak Load Calculation

Peak Load (kW)	224	1,115	891
Systemwide Peak Load (MW)	5,907	5,907	5,907
Percent of Peak			0.015%

¹2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Commission 2017. Page 11, Figure 6. Visual estimate.

	3,746,357,298	621,640,500
Fuel Usage for Project Construction	90,616	354,406
Percentage of County for Construction	0.0024%	0.057%

Region	CalYr	VehClass	MdlYr	Speed	Fuel	(1000 gallons/day)	(1000 gallons/day)
Los Angeles	2029	HHDT	Aggregatec	Aggregatec	Diesel	0.00	1128.39
Los Angeles	2029	HHDT	Aggregatec	Aggregatec	Gasoline	0.48	0.00
Los Angeles	2029	LDA	Aggregatec	Aggregatec	Diesel	0.00	3.77
Los Angeles	2029	LDA	Aggregatec	Aggregatec	Gasoline	3965.78	0.00
Los Angeles	2029	LDT1	Aggregatec	Aggregatec	Diesel	0.00	0.01
Los Angeles	2029	LDT1	Aggregatec	Aggregatec	Gasoline	415.02	0.00
Los Angeles	2029	LDT2	Aggregatec	Aggregatec	Diesel	0.00	7.64
Los Angeles	2029	LDT2	Aggregatec	Aggregatec	Gasoline	2783.98	0.00
Los Angeles	2029	LHDT1	Aggregatec	Aggregatec	Diesel	0.00	141.74
Los Angeles	2029	LHDT1	Aggregatec	Aggregatec	Gasoline	332.50	0.00
Los Angeles	2029	LHDT2	Aggregatec	Aggregatec	Diesel	0.00	75.52
Los Angeles	2029	LHDT2	Aggregatec	Aggregatec	Gasoline	53.18	0.00
Los Angeles	2029	MCY	Aggregatec	Aggregatec	Gasoline	25.53	0.00
Los Angeles	2029	MDV	Aggregatec	Aggregatec	Diesel	0.00	17.84
Los Angeles	2029	MDV	Aggregatec	Aggregatec	Gasoline	1853.90	0.00
Los Angeles	2029	MH	Aggregatec	Aggregatec	Diesel	0.00	6.73
Los Angeles	2029	MH	Aggregatec	Aggregatec	Gasoline	30.51	0.00
Los Angeles	2029	MHDT	Aggregatec	Aggregatec	Diesel	0.00	284.57
Los Angeles	2029	MHDT	Aggregatec	Aggregatec	Gasoline	129.91	0.00
Los Angeles	2029	OBUS	Aggregatec	Aggregatec	Diesel	0.00	23.67
Los Angeles	2029	OBUS	Aggregatec	Aggregatec	Gasoline	21.56	0.00
Los Angeles	2029	SBUS	Aggregatec	Aggregatec	Diesel	0.00	4.35
Los Angeles	2029	SBUS	Aggregatec	Aggregatec	Gasoline	7.74	0.00
Los Angeles	2029	UBUS	Aggregatec	Aggregatec	Diesel	0.00	0.26
Los Angeles	2029	UBUS	Aggregatec	Aggregatec	Gasoline	6.53	0.00
Los Angeles	2029	LDA	Aggregatec	Aggregatec	Plug-in Hybrid	84.35	0.00
Los Angeles	2029	LDT1	Aggregatec	Aggregatec	Plug-in Hybrid	1.26	0.00
Los Angeles	2029	LDT2	Aggregatec	Aggregatec	Plug-in Hybrid	19.27	0.00
Los Angeles	2029	MDV	Aggregatec	Aggregatec	Plug-in Hybrid	11.23	0.00
						3,513,721,584	618,491,405
Net Fuel Usage for Project Operation						166,196	28,906
Percentage of County for Operation						0.0047%	0.0047%