Appendix D

Energy Calculations

Draft EIR

Energy Calculation Worksheets

- Energy Consumption Summary
  - Construction Energy Usage
  - On-site Power
  - Off-Road Equipment
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  - On-Road Vehicles
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Sunset Gower - Energy Calculations

Summary of Energy Use During Construction

	Project With Project Features	
Electricty		
Water Consumption	12,015	kWh
Temporary Power (lighting, tools)	109,570	kWh
Total:	**121,584**	kWh
Gasoline		
On Road	285,112	Gallons
Off Road	0	
Total:	**285,112**	Gallons
Diesel		
On Road	227,347	Gallons
Off Road	142,570	Gallons
Total:	**369,917**	Gallons
Total Mobile	**655,030**	

Summary of Energy Use During Operations

	Baseline (Buildout)	Project Without Project Features	Project With Project Features	Percent Reduction	Net (Project - Baseline (Buildout)
Electricity					
Electricity (building)	10,595,090	16,553,268	14,902,357 kWh/year	-10%	4,307,267
Electricity (water)	1,743,794	3,158,607	2,526,886 kWh/year	-20%	783,092
Electricity Total	**12,338,884**	**19,711,875**	**17,429,243 kWh/year**	**-12%**	**5,090,359**
Natural Gas	**7,228,086**	**10,657,676**	**9,631,838 cu ft/year**	**-10%**	**2,403,752**
Mobile					
Gasoline	330,349	728,566	539,643 Gallons/year	-26%	209,294
Diesel	92,350	203,672	150,858 Gallons/year	-26%	58,508
Mobile Total	**422,699**	**932,238**	**690,502 Gallons/year**	**-26%**	**267,802**

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	4
Average Daily Output (kWh)	100.8
Building Construction Phase Duration (days)	1,087
Total Construction (kWh)	109,570
Total Construction (MWh)	109.6

[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 (Total)	Aerial Lifts	2	8	63	0.31	0.6	83	778	
Demolition (Total)	Air Compressors	2	8	78	0.48	0.6	83	1,492	
Demolition (Total)	Concrete/Industrial Saws	2	8	81	0.73	0.6	83	2,356	
Demolition (Total)	Excavators	1	8	158	0.38	0.6	83	1,196	
Demolition (Total)	Rubber Tired Dozers	1	8	247	0.4	0.6	83	1,968	
Demolition (Total)	Skid Steer Loaders	1	8	65	0.37	0.6	83	479	
Demolition (Total)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	83	1,430	
Grading (Phase 2-Bldg A, Parking Structure F)	Air Compressors	1	8	78	0.48	0.6	65	584	
Grading (Phase 2-Bldg A, Parking Structure F)	Bore/Drill Rigs	2	8	221	0.5	0.6	65	3,448	
Grading (Phase 2-Bldg A, Parking Structure F)	Cranes	2	8	231	0.29	0.6	65	2,090	
Grading (Phase 2-Bldg A, Parking Structure F)	Excavators	2	8	158	0.38	0.6	65	1,873	
Grading (Phase 2-Bldg A, Parking Structure F)	Graders	0	8	187	0.41	0.6	65	0	
Grading (Phase 2-Bldg A, Parking Structure F)	Rubber Tired Dozers	0	8	247	0.4	0.6	65	0	
Grading (Phase 2-Bldg A, Parking Structure F)	Scrapers	0	8	367	0.48	0.6	65	0	
Grading (Phase 2-Bldg A, Parking Structure F)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	65	1,120	
Matt Foundation (Phase 2-Bldg A, Parking Structu	Cement and Mortar Mixers	4	24	9	0.56	0.6	10	145	
Matt Foundation (Phase 2-Bldg A, Parking Structu	Pumps	4	24	84	0.74	0.6	10	1,790	
Matt Foundation (Phase 2-Bldg A, Parking Structu	Tractors/Loaders/Backhoes	1	16	97	0.37	0.6	10	172	
Matt Foundation (Phase 2-Bldg A, Parking Structu	Welders	2	8	46	0.45	0.6	10	99	
Grading (Phase 2-Below Grade Parking)	Air Compressors	1	8	78	0.48	0.6	54	485	
Grading (Phase 2-Below Grade Parking)	Bore/Drill Rigs	2	8	221	0.5	0.6	54	2,864	
Grading (Phase 2-Below Grade Parking)	Cranes	2	8	231	0.29	0.6	54	1,736	
Grading (Phase 2-Below Grade Parking)	Excavators	2	8	158	0.38	0.6	54	1,556	
Grading (Phase 2-Below Grade Parking)	Graders	0	8	187	0.41	0.6	54	0	
Grading (Phase 2-Below Grade Parking)	Rubber Tired Dozers	0	8	247	0.4	0.6	54	0	
Grading (Phase 2-Below Grade Parking)	Rubber Tired Loaders	0	8	203	0.36	0.6	54	0	
Grading (Phase 2-Below Grade Parking)	Scrapers	0	8	367	0.48	0.6	54	0	
Grading (Phase 2-Below Grade Parking)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	54	930	
Building Construction (Phase 2-Bldg A, Parking S	Aerial Lifts	2	8	63	0.31	0.6	695	6,515	
Building Construction (Phase 2-Bldg A, Parking S	Air Compressors	2	8	78	0.48	0.6	695	12,490	
Building Construction (Phase 2-Bldg A, Parking S	Cement and Mortar Mixers	1	8	9	0.56	0.6	695	841	
Building Construction (Phase 2-Bldg A, Parking S	Cranes	0	7	231	0.29	0.6	695	0	
Building Construction (Phase 2-Bldg A, Parking S	Forklifts	2	8	89	0.2	0.6	695	5,938	
Building Construction (Phase 2-Bldg A, Parking S	Generator Sets	0	8	84	0.74	0.6	695	0	
Building Construction (Phase 2-Bldg A, Parking S	Pumps	1	8	84	0.74	0.6	695	10,368	
Building Construction (Phase 2-Bldg A, Parking S	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	695	11,973	
Building Construction (Phase 2-Bldg A, Parking S	Welders	2	8	46	0.45	0.6	695	6,906	
Matt Foundation (Phase 2-Below Grade Parking)	Cement and Mortar Mixers	4	24	9	0.56	0.6	10	145	
Matt Foundation (Phase 2-Below Grade Parking)	Pumps	4	24	84	0.74	0.6	10	1,790	
Matt Foundation (Phase 2-Below Grade Parking)	Tractors/Loaders/Backhoes	1	16	97	0.37	0.6	10	172	
Matt Foundation (Phase 2-Below Grade Parking)	Welders	2	8	46	0.45	0.6	10	99	
Building Construction (Phase 2-Below Grade Parl	Aerial Lifts	2	8	63	0.31	0.6	260	2,437	
Building Construction (Phase 2-Below Grade Parl	Air Compressors	2	8	78	0.48	0.6	260	4,673	
Building Construction (Phase 2-Below Grade Parl	Cement and Mortar Mixers	1	8	9	0.56	0.6	260	314	
Building Construction (Phase 2-Below Grade Parl	Cranes	0	7	231	0.29	0.6	260	0	
Building Construction (Phase 2-Below Grade Parl	Forklifts	2	8	89	0.2	0.6	260	2,221	
Building Construction (Phase 2-Below Grade Parl	Generator Sets	0	8	84	0.74	0.6	260	0	
Building Construction (Phase 2-Below Grade Parl	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	260	4,479	
Building Construction (Phase 2-Below Grade Parl	Welders	2	8	46	0.45	0.6	260	2,583	
Architectural Coating	Air Compressors	2	8	78	0.48	0.6	473	8,500	
Grading (Phase 3-Bldg C and D)	Bore/Drill Rigs	2	8	221	0.5	0.6	7	371	
Grading (Phase 3-Bldg C and D)	Cranes	2	7	231	0.29	0.6	7	197	
Grading (Phase 3-Bldg C and D)	Excavators	2	8	158	0.38	0.6	7	202	
Grading (Phase 3-Bldg C and D)	Forklifts	0	8	89	0.2	0.6	7	0	
Grading (Phase 3-Bldg C and D)	Generator Sets	0	8	84	0.74	0.6	7	0	
Grading (Phase 3-Bldg C and D)	Graders	0	8	187	0.41	0.6	7	0	
Grading (Phase 3-Bldg C and D)	Rubber Tired Dozers	0	8	247	0.4	0.6	7	0	
Grading (Phase 3-Bldg C and D)	Rubber Tired Loaders	0	8	203	0.36	0.6	7	0	
Grading (Phase 3-Bldg C and D)	Scrapers	0	8	367	0.48	0.6	7	0	
Grading (Phase 3-Bldg C and D)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	7	121	
Grading (Phase 3-Bldg C and D)	Welders	0	8	46	0.45	0.6	7	0	
Matt Foundation (Phase 3-Bldg C and D)	Cement and Mortar Mixers	4	24	9	0.56	0.6	10	145	
Matt Foundation (Phase 3-Bldg C and D)	Pumps	4	24	84	0.74	0.6	10	1,790	
Matt Foundation (Phase 3-Bldg C and D)	Tractors/Loaders/Backhoes	1	16	97	0.37	0.6	10	172	
Matt Foundation (Phase 3-Bldg C and D)	Welders	2	8	46	0.45	0.6	10	99	
Building Construction (Phase 3-Bldg C and D)	Aerial Lifts	2	8	63	0.31	0.6	392	3,675	
Building Construction (Phase 3-Bldg C and D)	Air Compressors	2	6	78	0.48	0.6	392	5,284	
Building Construction (Phase 3-Bldg C and D)	Cement and Mortar Mixers	1	8	9	0.56	0.6	392	474	
Building Construction (Phase 3-Bldg C and D)	Cranes	0	7	231	0.29	0.6	392	0	
Building Construction (Phase 3-Bldg C and D)	Excavators	0	8	158	0.38	0.6	392	0	
Building Construction (Phase 3-Bldg C and D)	Forklifts	2	8	89	0.2	0.6	392	3,349	
Building Construction (Phase 3-Bldg C and D)	Generator Sets	0	8	84	0.74	0.6	392	0	
Building Construction (Phase 3-Bldg C and D)	Pumps	1	8	84	0.74	0.6	392	5,848	
Building Construction (Phase 3-Bldg C and D)	Rubber Tired Dozers	0	8	247	0.4	0.6	392	0	
Building Construction (Phase 3-Bldg C and D)	Tractors/Loaders/Backhoes	2	7	97	0.37	0.6	392	5,909	
Building Construction (Phase 3-Bldg C and D)	Welders	2	8	46	0.45	0.6	392	3,895	
						Total Diesel Usage for Construction (Offr		**142,569.8**	**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: 2021
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	5983324.08	203406334.5	37758497.7	8962.552247	0	22.7
South Coast	LDT1	GAS	Aggregate	704120.722	23959701.08	4257214.069	1219.237627	0	19.7
South Coast	LDT2	GAS	Aggregate	1998564.65	72973317.94	12574607.68	4353.005354	0	16.8
						Construction Worker Trip (Composite LDA/LDT1/LDT2):			**20.5**
South Coast	T7	DSL	Aggregate	87795.947	13172387.8	0	0	2357.794852	**5.6**

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 (Total)	60	0	83	4980	0	755	19.8	7.9	25	98604	0	18875	0.6	2,892.8	3,378.5
Grading (Phase 2-Bldg A, Parkin	60	0	65	3900	0	20410	19.8	7.9	25	77220	0	510250	0.6	2,265.5	91,332.3
Matt Foundation (Phase 2-Bldg A	60	500	10	600	5000	0	19.8	7.9	20	11880	39500	0	0.6	348.5	4,242.2
Grading (Phase 2-Below Grade F	60	0	54	3240	0	16956	19.8	7.9	25	64152	0	423900	0.6	1,882.1	75,876.1
Building Construction (Phase 2-E	500	60	695	347500	41700	0	19.8	7.9	20	6880500	329430	0	0.6	201,859.2	35,379.8
Matt Foundation (Phase 2-Below	60	460	10	600	4600	0	19.8	7.9	20	11880	36340	0	0.6	348.5	3,902.8
Building Construction (Phase 2-E	500	60	260	130000	15600	0	19.8	7.9	20	2574000	123240	0	0.6	75,515.7	13,235.6
Architectural Coating	0	0	473	0	0	0	19.8	7.9	20	0	0	0	0.6	0.0	0.0
Grading (Phase 3-Bldg C and D)	60	0	7	420	0	2198	19.8	7.9	25	8316	0	54950	0.6	244.0	9,835.8
Matt Foundation (Phase 3-Bldg C	60	276	10	600	2760	0	19.8	7.9	20	11880	21804	0	0.6	348.5	2,341.7
Building Construction (Phase 3-E	500	60	392	196000	23520	0	19.8	7.9	20	3880800	185808	0	0.6	113,854.4	19,955.2
													Total:	**285,112.3**	**227,347.4**

Worker Miles per gallon=	20.45	gasoline
Vedor/Haul miles per gallon=	5.59	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 (Total)	83	2.0	501,320	4,876
Grading (Phase 2-Bldg A, Parking Struc	65	2.0	392,600	3,819
Matt Foundation (Phase 2-Bldg A, Park	10	0.5	15,100	147
Grading (Phase 2-Below Grade Parking	54	2.0	326,160	3,173
Building Construction (Phase 2-Bldg A,	695	0.0	0	0
Matt Foundation (Phase 2-Below Grade	10	0.5	15,100	147
Building Construction (Phase 2-Below C	260	0.1	78,520	764
Architectural Coating	473	0.0	0	0
Grading (Phase 3-Bldg C and D)	7	2.0	42,280	411
Matt Foundation (Phase 3-Bldg C and D	10	0.5	15,100	147
Building Construction (Phase 3-Bldg C a	392	0.0	0	0
		Total:	**1,235,180**	**12,015**

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: 2028
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	2028	Annual	HHDT	GAS	Aggregated	Aggregated	650	83,706	13,006	17.0	0.0
Los Angeles	2028	Annual	HHDT	DSL	Aggregated	Aggregated	58,232	8,464,223	0	0.0	1358.4
Los Angeles	2028	Annual	LDA	GAS	Aggregated	Aggregated	3,895,915	121,987,762	24,555,222	3665.8	0.0
Los Angeles	2028	Annual	LDA	DSL	Aggregated	Aggregated	47,595	1,550,994	302,037	0.0	35.1
Los Angeles	2028	Annual	LDA	ELEC	Aggregated	Aggregated	396,951	14,717,101	2,571,887	0.0	0.0
Los Angeles	2028	Annual	LDT1	GAS	Aggregated	Aggregated	356,706	11,242,359	2,184,829	394.1	0.0
Los Angeles	2028	Annual	LDT1	DSL	Aggregated	Aggregated	264	7,638	1,516	0.0	0.2
Los Angeles	2028	Annual	LDT1	ELEC	Aggregated	Aggregated	213	6,270	1,270	0.0	0.0
Los Angeles	2028	Annual	LDT2	GAS	Aggregated	Aggregated	1,604,505	53,337,615	10,172,076	2046.4	0.0
Los Angeles	2028	Annual	LDT2	DSL	Aggregated	Aggregated	3,431	115,354	21,910	0.0	3.4
Los Angeles	2028	Annual	LHDT1	GAS	Aggregated	Aggregated	48,904	1,391,075	728,600	123.3	0.0
Los Angeles	2028	Annual	LHDT1	DSL	Aggregated	Aggregated	63,586	2,181,481	799,835	0.0	101.1
Los Angeles	2028	Annual	LHDT2	GAS	Aggregated	Aggregated	14,366	494,157	214,026	46.9	0.0
Los Angeles	2028	Annual	LHDT2	DSL	Aggregated	Aggregated	30,549	1,117,705	384,273	0.0	56.7
Los Angeles	2028	Annual	MCY	GAS	Aggregated	Aggregated	218,800	1,345,336	437,556	39.6	0.0
Los Angeles	2028	Annual	MDV	GAS	Aggregated	Aggregated	913,703	28,879,523	5,695,769	1500.8	0.0
Los Angeles	2028	Annual	MDV	DSL	Aggregated	Aggregated	22,464	744,939	143,248	0.0	28.3
Los Angeles	2028	Annual	MH	GAS	Aggregated	Aggregated	19,964	164,745	1,997	22.2	0.0
Los Angeles	2028	Annual	MH	DSL	Aggregated	Aggregated	5,229	44,245	523	0.0	4.3
Los Angeles	2028	Annual	MHDT	GAS	Aggregated	Aggregated	12,912	649,243	258,349	91.2	0.0
Los Angeles	2028	Annual	MHDT	DSL	Aggregated	Aggregated	94,975	4,739,056	0	0.0	535.1
Los Angeles	2028	Annual	OBUS	GAS	Aggregated	Aggregated	6,569	275,243	131,432	38.2	0.0
Los Angeles	2028	Annual	OBUS	DSL	Aggregated	Aggregated	5,285	390,027	0	0.0	52.0
Los Angeles	2028	Annual	SBUS	GAS	Aggregated	Aggregated	1,914	69,041	7,657	5.9	0.0
Los Angeles	2028	Annual	SBUS	DSL	Aggregated	Aggregated	2,971	112,313	0	0.0	15.2
Los Angeles	2028	Annual	UBUS	GAS	Aggregated	Aggregated	1,745	186,161	6,980	36.0	0.0
Los Angeles	2028	Annual	UBUS	DSL	Aggregated	Aggregated	2,602	276,376	10,407	0.0	54.4

					MPG	Gallons Per Mile
Totals	254,573,687.79		8,027.56	2,244.12	**24.8**	0.04
Total (GAS)	220,105,965.70	0.92		0.02	**27.4**	0.04
Total (DSL)	19,744,350.97	0.08			**8.8**	0.11

Sunset Gower - Existing Operations
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
General Office Building	378.98	1000sqft	15.9	378980	0
Industrial Park	231.11	1000sqft	0	231108	0
Enclosed Parking with Elevator	1398	Space	0	559200	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
General Office Building	0.0	0.0	0.0	0.0
Industrial Park	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0
User Defined Commercial	3628.0	3628.0	3628.0	9,865,492
User Defined Industrial	132.0	132.0	132.0	4,805
Total	**3,760.00**	**3,760.00**	**3,760.00**	**9,870,296.80**

Gasoline and Diesel Usage

	Buildout Year		Existing (Baseline) Year	
	Gasoline	*Diesel*	*Gasoline*	*Diesel*
Miles/Gallon	27.4	8.8	18.6	7.4
% Fleet Mix	91.8%	8.2%	92.9%	6.5%
Total (Gallons):	**330,349**	**92,350**	**491,861**	**87,172**

Energy by Land Use - Natural Gas

Land Uses	*kBTU/yr*	cu ft/year
General Office Building	4,714,510	4,490,010
Industrial Park	2,874,980	2,738,076
Enclosed Parking with Elevator	0.0	0
Total	**7,589,490**	**7,228,086**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
General Office Building	5,775,660
Industrial Park	3,522,090
Enclosed Parking with Elevator	1,297,340
Total	10,595,090

Water Detail

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Enclosed Parking with Elevator	0.000	0.000	0
General Office Building	67.358	41.284	1,149,976
Industrial Park	53.444	0.000	593,819
Total	120.80	41.28	**1,743,794**

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 Gower (Energy Usage) - Project Without Project Features
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
General Office Building	852.79	1000sqft	15.9	852792	0
Industrial Park	222.19	1000sqft	0	222190	0
Enclosed Parking with Elevator	985	Space	0	394000	0
Enclosed Parking with Elevator	1398	Space	0	559200	0
Unenclosed Parking Structure	354	Space	0	141600	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
General Office Building	0.0	0.0	0.0	0.0
Industrial Park	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0
Unenclosed Parking Structure	0.0	0.0	0.0	0
User Defined Commercial	8067.0	8067.0	8067.0	21,763,560
User Defined Industrial	132.0	132.0	132.0	4,805
Total	8,199.00	8,199.00	8,199.00	21,768,365

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	27.4	8.8
% Fleet Mix	91.8%	8.2%
Total (Gallons):	**728,566**	**203,672**

Energy by Land Use - Natural Gas

Land Uses	*kBTU/yr*	cu ft/year
General Office Building	8877560.0	8,454,819
Industrial Park	2313000.0	2,202,857
Enclosed Parking with Elevator	0.0	0
Enclosed Parking with Elevator	0.0	0
Unenclosed Parking Structure	0.0	0

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
General Office Building	10,685,500
Industrial Park	2,784,040
Enclosed Parking with Elevator	1,138,270
Enclosed Parking with Elevator	1,615,530
Unenclosed Parking Structure	329,928
Total	**16,553,268**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
General Office Building	151.570	92.898	2,587,708
Industrial Park	51.381	0.000	570,899
Enclosed Parking with Elevator	0.000	0.000	0
Enclosed Parking with Elevator	0.000	0.000	0
Unenclosed Parking Structure	0.000	0.000	0
Total	202.95	92.90	**3,158,607**

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 Gower - Project Operations
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
General Office Building	852.79	1000sqft	15.9	852792	0
Industrial Park	222.19	1000sqft	0	222190	0
Enclosed Parking with Elevator	985	Space	0	394000	0
Enclosed Parking with Elevator	1398	Space	0	559200	0
Unenclosed Parking Structure	354	Space	0	141600	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Mitigated*
	Weekday	*Saturday*	*Sunday*	
General Office Building	0.0	0.0	0.0	0.0
Industrial Park	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0.0
Unenclosed Parking Structure	0.0	0.0	0.0	0.0
User Defined Commercial	5936.0	5936.0	5936.0	16,118,852
User Defined Industrial	132.0	132.0	132.0	4,805
Total	6,068.00	6,068.00	6,068.00	16,123,657

Mitigated Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	27.4	8.8
% Fleet Mix	91.8%	8.2%
Total (Gallons):	**539,643**	**150,858**

Energy by Land Use - Natural Gas (Mitigated)

Land Uses	*kBTU/yr*	cu ft/year
General Office Building	8023070.0	7,641,019
Industrial Park	2090360.0	1,990,819
Enclosed Parking with Elevator	0.0	0
Enclosed Parking with Elevator	0.0	0
Unenclosed Parking Structure	0.0	0
Total	10,113,430	**9,631,838**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
General Office Building	9,881,730
Industrial Park	2,574,630
Enclosed Parking with Elevator	1,289,790
Enclosed Parking with Elevator	908,761
Unenclosed Parking Structure	247,446
Total	**14,902,357**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
General Office Building	121.256	74.318	2,070,167
Industrial Park	41.105	0.000	456,720
Enclosed Parking with Elevator	0.000	0.000	0
Enclosed Parking with Elevator	0.000	0.000	0
Unenclosed Parking Structure	0.000	0.000	0
Total	162.36	74.32	**2,526,886**

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).

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	
Building (MWh)	14,902
Water (MWh)	2,527
Total (MWh)	17,429
Average Daily Demand	
Building (kWh)	40,828
Water (kWh)	6,923
Total (kWh)	47,751
Average Load	
Building (kW)	1,701
Water (kW)	288
Total (kW)	1,990

Peak Load Calculation

Peak Load (kW)	**3,560**
Systemwide Peak Load (MWh)	5,854
Percent of Peak	0.061%

[1]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: **2018**

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2018	LDA	Aggregatec	Aggregatec	GAS	8824.50	0.00
Los Angeles	2018	LDA	Aggregatec	Aggregatec	DSL	0.00	21.16
Los Angeles	2018	LDT1	Aggregatec	Aggregatec	GAS	1195.14	0.00
Los Angeles	2018	LDT1	Aggregatec	Aggregatec	DSL	0.00	1.12
Los Angeles	2018	LDT2	Aggregatec	Aggregatec	GAS	4228.72	0.00
Los Angeles	2018	LDT2	Aggregatec	Aggregatec	DSL	0.00	1.13
Los Angeles	2018	LHD1	Aggregatec	Aggregatec	GAS	951.76	0.00
Los Angeles	2018	LHD1	Aggregatec	Aggregatec	DSL	0.00	203.36
Los Angeles	2018	LHD2	Aggregatec	Aggregatec	GAS	99.90	0.00
Los Angeles	2018	LHD2	Aggregatec	Aggregatec	DSL	0.00	66.80
Los Angeles	2018	MCY	Aggregatec	Aggregatec	GAS	43.02	0.00
Los Angeles	2018	MDV	Aggregatec	Aggregatec	GAS	4144.63	0.00
Los Angeles	2018	MDV	Aggregatec	Aggregatec	DSL	0.00	1.85
Los Angeles	2018	MH	Aggregatec	Aggregatec	GAS	49.99	0.00
Los Angeles	2018	MH	Aggregatec	Aggregatec	DSL	0.00	13.38
Los Angeles	2018	OBUS	Aggregatec	Aggregatec	GAS	22.19	0.00
Los Angeles	2018	OBUS	Aggregatec	Aggregatec	DSL	0.00	71.18
Los Angeles	2018	SBUS	Aggregatec	Aggregatec	GAS	5.24	0.00
Los Angeles	2018	SBUS	Aggregatec	Aggregatec	DSL	0.00	24.16
Los Angeles	2018	T6	Aggregatec	Aggregatec	GAS	89.87	0.00
Los Angeles	2018	T6	Aggregatec	Aggregatec	DSL	0.00	576.35
Los Angeles	2018	T7	Aggregatec	Aggregatec	GAS	18.68	0.00
Los Angeles	2018	T7	Aggregatec	Aggregatec	DSL	0.00	2187.12
Los Angeles	2018	UBUS	Aggregatec	Aggregatec	GAS	18.22	0.00
Los Angeles	2018	UBUS	Aggregatec	Aggregatec	DSL	0.00	195.08

	7,187,516,669	1,227,380,240
Fuel Usage for Project Construction	285,112	369,917
Percentage of County for Construction	0.0040%	0.030%
Net Fuel Usage for Project Operation	539,643	150,858
Percentage of County for Operation	0.0075%	0.0123%

Alternative 2

Energy Calculation Worksheets

- Energy Consumption Summary (Alternative 2)
- Construction Energy Usage (Alternative 2)
  - On-site Power
  - Off-Road Equipment
  - On-Road Fuel Usage Rates
  - On-Road Vehicles
  - Construction Water Usage
- Operational Energy Usage (Alternative 2)
  - On-Road Fuel Usage Rates
  - Buildout without Project Design Features
  - Buildout with Project Design Features
  - Peak Electricity Demand Calculations

Sunset Gower - Energy Calculations

Summary of Energy Use During Construction

	Alternative 2 With Project Features
Electricty	
Water Consumption	12,279 kWh
Temporary Power (lighting, tools)	109,570 kWh
Total:	**121,849** kWh
Gasoline	
On Road	207,633 Gallons
Off Road	0
Total:	**207,633** Gallons
Diesel	
On Road	257,740 Gallons
Off Road	135,361 Gallons
Total:	**393,101** Gallons
Total Mobile	**600,734**

Summary of Energy Use During Operations

	Baseline (Buildout)	Alternative 2 Without Project Features	Alternative 2 With Project Features	Percent Reduction	Net (Alternative 2 - Baseline (Buildout)
Electricity					
Electricity (building)	10,595,090	16,208,870	14,710,838 kWh/year	-9%	4,115,748
Electricity (water)	1,743,794	3,204,424	3,204,424 kWh/year	0%	1,460,630
Electricity Total	**12,338,884**	**19,413,294**	**17,915,262 kWh/year**	**-8%**	**5,576,378**
Natural Gas	**7,228,086**	**9,845,781**	**9,845,781 cu ft/year**	**0%**	**2,617,695**
Mobile					
Gasoline	330,349	737,248	546,646 Gallons/year	-26%	216,296
Diesel	92,350	206,099	152,816 Gallons/year	-26%	60,466
Mobile Total	**422,699**	**943,348**	**699,462 Gallons/year**	**-26%**	**276,763**

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	4
Average Daily Output (kWh)	100.8
Building Construction Phase Duration (days)	1,087
Total Construction (kWh)	109,570
Total Construction (MWh)	109.6

[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 (Total)	Aerial Lifts	2	8	63	0.31	0.6	68	637	
Demolition (Total)	Air Compressors	2	8	78	0.48	0.6	68	1,222	
Demolition (Total)	Concrete/Industrial Saws	2	8	81	0.73	0.6	68	1,930	
Demolition (Total)	Excavators	1	8	158	0.38	0.6	68	980	
Demolition (Total)	Rubber Tired Dozers	1	8	247	0.4	0.6	68	1,612	
Demolition (Total)	Skid Steer Loaders	1	8	65	0.37	0.6	68	392	
Demolition (Total)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	68	1,171	
Grading (Basecamp, Bldg D, Bldg E)	Air Compressors	1	8	78	0.48	0.6	98	881	
Grading (Basecamp, Bldg D, Bldg E)	Bore/Drill Rigs	2	8	221	0.5	0.6	98	5,198	
Grading (Basecamp, Bldg D, Bldg E)	Cranes	2	8	231	0.29	0.6	98	3,151	
Grading (Basecamp, Bldg D, Bldg E)	Excavators	2	8	158	0.38	0.6	98	2,824	
Grading (Basecamp, Bldg D, Bldg E)	Graders	0	8	187	0.41	0.6	98	0	
Grading (Basecamp, Bldg D, Bldg E)	Rubber Tired Dozers	0	8	247	0.4	0.6	98	0	
Grading (Basecamp, Bldg D, Bldg E)	Scrapers	0	8	367	0.48	0.6	98	0	
Grading (Basecamp, Bldg D, Bldg E)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	98	1,688	
Mat Foundation (Basecamp, Bldg D, Bldg E)	Cement and Mortar Mixers	4	24	9	0.56	0.6	8	116	
Mat Foundation (Basecamp, Bldg D, Bldg E)	Pumps	4	24	84	0.74	0.6	8	1,432	
Mat Foundation (Basecamp, Bldg D, Bldg E)	Rubber Tired Dozers	0	8	247	0.4	0.6	8	0	
Mat Foundation (Basecamp, Bldg D, Bldg E)	Tractors/Loaders/Backhoes	1	16	97	0.37	0.6	8	138	
Mat Foundation (Basecamp, Bldg D, Bldg E)	Welders	2	8	46	0.45	0.6	8	79	
Grading (Bldg A)	Air Compressors	1	8	78	0.48	0.6	41	368	
Grading (Bldg A)	Bore/Drill Rigs	2	8	221	0.5	0.6	41	2,175	
Grading (Bldg A)	Cranes	2	8	231	0.29	0.6	41	1,318	
Grading (Bldg A)	Excavators	2	8	158	0.38	0.6	41	1,182	
Grading (Bldg A)	Graders	0	8	187	0.41	0.6	41	0	
Grading (Bldg A)	Rubber Tired Dozers	0	8	247	0.4	0.6	41	0	
Grading (Bldg A)	Scrapers	0	8	367	0.48	0.6	41	0	
Grading (Bldg A)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	41	706	
Building Construction (Basecamp, Bldg D, Bldg E)	Aerial Lifts	2	8	63	0.31	0.6	350	3,281	
Building Construction (Basecamp, Bldg D, Bldg E)	Air Compressors	2	8	78	0.48	0.6	350	6,290	
Building Construction (Basecamp, Bldg D, Bldg E)	Cement and Mortar Mixers	1	8	9	0.56	0.6	350	423	
Building Construction (Basecamp, Bldg D, Bldg E)	Cranes	0	7	231	0.29	0.6	350	0	
Building Construction (Basecamp, Bldg D, Bldg E)	Forklifts	2	8	89	0.2	0.6	350	2,990	
Building Construction (Basecamp, Bldg D, Bldg E)	Generator Sets	0	8	84	0.74	0.6	350	0	
Building Construction (Basecamp, Bldg D, Bldg E)	Pumps	1	8	84	0.74	0.6	350	5,221	
Building Construction (Basecamp, Bldg D, Bldg E)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	350	6,030	
Building Construction (Basecamp, Bldg D, Bldg E)	Welders	2	8	46	0.45	0.6	350	3,478	
Mat Foundation (Bldg A)	Cement and Mortar Mixers	4	24	9	0.56	0.6	3	44	
Mat Foundation (Bldg A)	Pumps	4	24	84	0.74	0.6	3	537	
Mat Foundation (Bldg A)	Rubber Tired Dozers	0	8	247	0.4	0.6	3	0	
Mat Foundation (Bldg A)	Tractors/Loaders/Backhoes	1	16	97	0.37	0.6	3	52	
Mat Foundation (Bldg A)	Welders	2	8	46	0.45	0.6	3	30	
Grading (Bldg B)	Air Compressors	1	8	78	0.48	0.6	6	54	
Grading (Bldg B)	Bore/Drill Rigs	2	8	221	0.5	0.6	6	318	
Grading (Bldg B)	Cranes	2	8	231	0.29	0.6	6	193	
Grading (Bldg B)	Excavators	2	8	158	0.38	0.6	6	173	
Grading (Bldg B)	Graders	0	8	187	0.41	0.6	6	0	
Grading (Bldg B)	Rubber Tired Dozers	0	8	247	0.4	0.6	6	0	
Grading (Bldg B)	Scrapers	0	8	367	0.48	0.6	6	0	
Grading (Bldg B)	Tractors/Loaders/Backhoes	2	8	97	0.37	0.6	6	103	
Building Construction (Bldg A)	Aerial Lifts	2	8	63	0.31	0.6	510	4,781	
Building Construction (Bldg A)	Air Compressors	2	8	78	0.48	0.6	510	9,165	
Building Construction (Bldg A)	Cement and Mortar Mixers	1	8	9	0.56	0.6	510	617	
Building Construction (Bldg A)	Cranes	0	7	231	0.29	0.6	510	0	
Building Construction (Bldg A)	Forklifts	2	8	89	0.2	0.6	510	4,357	
Building Construction (Bldg A)	Generator Sets	0	8	84	0.74	0.6	510	0	
Building Construction (Bldg A)	Pumps	1	8	84	0.74	0.6	510	7,608	
Building Construction (Bldg A)	Tractors/Loaders/Backhoes	2	7	97	0.37	0.6	510	7,688	
Building Construction (Bldg A)	Welders	2	8	46	0.45	0.6	510	5,067	
Mat Foundation (Bldg B)	Cement and Mortar Mixers	4	24	9	0.56	0.6	1	15	
Mat Foundation (Bldg B)	Pumps	4	24	84	0.74	0.6	1	179	
Mat Foundation (Bldg B)	Rubber Tired Dozers	0	8	247	0.4	0.6	1	0	
Mat Foundation (Bldg B)	Tractors/Loaders/Backhoes	1	16	97	0.37	0.6	1	17	
Mat Foundation (Bldg B)	Welders	2	8	46	0.45	0.6	1	10	
Building Construction (Bldg B)	Aerial Lifts	2	8	63	0.31	0.6	392	3,675	
Building Construction (Bldg B)	Air Compressors	2	8	78	0.48	0.6	392	7,045	
Building Construction (Bldg B)	Cement and Mortar Mixers	1	8	9	0.56	0.6	392	474	
Building Construction (Bldg B)	Cranes	0	7	231	0.29	0.6	392	0	
Building Construction (Bldg B)	Forklifts	2	8	89	0.2	0.6	392	3,349	
Building Construction (Bldg B)	Generator Sets	0	8	84	0.74	0.6	392	0	
Building Construction (Bldg B)	Pumps	1	8	84	0.74	0.6	392	5,848	
Building Construction (Bldg B)	Tractors/Loaders/Backhoes	2	7	97	0.37	0.6	392	5,909	
Building Construction (Bldg B)	Welders	2	8	46	0.45	0.6	392	3,895	
Architectural Coating	Air Compressors	2	8	78	0.48	0.6	403	7,242	
							Total Diesel Usage for Construction (Offr	**135,361.4**	**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: 2021
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	5983324.08	203406334.5	37758497.7	8962.552247	0	22.7
South Coast	LDT1	GAS	Aggregate	704120.722	23959701.08	4257214.069	1219.237627	0	19.7
South Coast	LDT2	GAS	Aggregate	1998564.65	72973317.94	12574607.68	4353.005354	0	16.8
							Construction Worker Trip (Composite LDA/LDT1/LDT2):		**20.5**
South Coast	T7	DSL	Aggregate	87795.947	13172387.8	0	0	2357.794852	**5.6**

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 (Total)	60	0	68	4080	0	755	19.8	7.9	25	80784	0	18875	0.6	2,370.0	3,378.5
Grading (Basecamp, Bldg D, Bld	60	0	98	5880	0	30702	19.8	7.9	25	116424	0	767550	0.6	3,415.6	137,387.8
Mat Foundation (Basecamp, Bldg	60	828	8	480	6624	0	19.8	7.9	20	9504	52329.6	0	0.6	278.8	5,620.0
Grading (Bldg A)	60	0	41	2460	0	12858	19.8	7.9	25	48708	0	321450	0.6	1,429.0	57,538.0
Building Construction (Basecamp	400	60	350	140000	21000	0	19.8	7.9	20	2772000	165900	0	0.6	81,324.6	17,817.2
Mat Foundation (Bldg A)	60	1028	3	180	3084	0	19.8	7.9	20	3564	24363.6	0	0.6	104.6	2,616.6
Grading (Bldg B)	60	0	6	360	0	1658	19.8	7.9	25	7128	0	41450	0.6	209.1	7,419.4
Building Construction (Bldg A)	400	60	510	204000	30600	0	19.8	7.9	20	4039200	241740	0	0.6	118,501.5	25,962.2
Mat Foundation (Bldg B)	60	880	1	60	880	0	19.8	7.9	20	1188	6952	0	0.6	34.9	746.6
Building Construction (Bldg B)	400	60	392	156800	23520	0	19.8	7.9	20	3104640	185808	0	0.6	91,083.5	19,955.2
Architectural Coating	0	0	403	0	0	0	19.8	7.9	20	0	0	0	0.6	0.0	0.0
													Total:	**207,633.2**	**257,739.7**

Worker Miles per gallon=	20.45	gasoline
Vedor/Haul miles per gallon=	5.59	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 (Total)	68	2.0	410,720	3,995
Grading (Basecamp, Bldg D, Bldg E)	98	2.0	591,920	5,758
Mat Foundation (Basecamp, Bldg D, Bl	8	0.5	12,080	118
Grading (Bldg A)	41	2.0	247,640	2,409
Building Construction (Basecamp, Bldg	350	0.0	0	0
Mat Foundation (Bldg A)	3	0.5	4,530	44
Grading (Bldg B)	6	2.0	36,240	353
Building Construction (Bldg A)	510	0.0	0	0
Mat Foundation (Bldg B)	1	0.5	1,510	15
Building Construction (Bldg B)	392	0.0	0	0
Architectural Coating	403	0.0	0	0
		Total:	**1,262,360**	**12,279**

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).

Sunset Gower (Energy Usage) - Alternative 2 Without Project Features
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
General Office Building	819.37	1000sqft	15.9	819369	0
Industrial Park	279.49	1000sqft	0	279491	0
Enclosed Parking with Elevator	1244	Space	0	497,600	0
Enclosed Parking with Elevator	1398	Space	0	559200	0
Unenclosed Parking Structure	0	Space	0	0	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
General Office Building	0.0	0.0	0.0	0.0
Industrial Park	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0
Unenclosed Parking Structure	0.0	0.0	0.0	0
User Defined Commercial	8165.0	8165.0	8165.0	22,022,965
User Defined Industrial	132.0	132.0	132.0	4,805
Total	8,297.00	8,297.00	8,297.00	22,027,770

Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	27.4	8.8
% Fleet Mix	91.8%	8.2%
Total (Gallons):	**737,248**	**206,099**

Energy by Land Use - Natural Gas

Land Uses	*kBTU/yr*	cu ft/year
General Office Building	7708620.0	7,341,543
Industrial Park	2629450.0	2,504,238
Enclosed Parking with Elevator	0.0	0
Enclosed Parking with Elevator	0.0	0
Unenclosed Parking Structure	0.0	0

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
General Office Building	10,266,700
Industrial Park	3,502,020
Enclosed Parking with Elevator	1,148,960
Enclosed Parking with Elevator	1,291,190
Unenclosed Parking Structure	0
Total	**16,208,870**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
General Office Building	145.630	89.257	2,486,297
Industrial Park	64.632	0.000	718,127
Enclosed Parking with Elevator	0.000	0.000	0
Enclosed Parking with Elevator	0.000	0.000	0
Unenclosed Parking Structure	0.000	0.000	0
Total	210.26	89.26	**3,204,424**

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 Gower - Alternative 2 Operations
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
General Office Building	819.37	1000sqft	15.9	819,369	0
Industrial Park	279.49	1000sqft	0	279,491	0
Enclosed Parking with Elevator	1244	Space	0	497600	0
Enclosed Parking with Elevator	1398	Space	0	559200	0
Unenclosed Parking Structure	0	Space	0	0	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Mitigated*
	Weekday	*Saturday*	*Sunday*	
General Office Building	0.0	0.0	0.0	0.0
Industrial Park	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0.0
Enclosed Parking with Elevator	0.0	0.0	0.0	0.0
Unenclosed Parking Structure	0.0	0.0	0.0	0.0
User Defined Commercial	6005.0	6005.0	6005.0	16,328,075
User Defined Industrial	132.0	132.0	132.0	4,805
Total	6,137.00	6,137.00	6,137.00	16,332,880

Mitigated Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	27.4	8.8
% Fleet Mix	91.8%	8.2%
Total (Gallons):	**546,646**	**152,816**

Energy by Land Use - Natural Gas (Mitigated)

Land Uses	*kBTU/yr*	cu ft/year
General Office Building	7708620.0	7,341,543
Industrial Park	2629450.0	2,504,238
Enclosed Parking with Elevator	0.0	0
Enclosed Parking with Elevator	0.0	0
Unenclosed Parking Structure	0.0	0
Total	10,338,070	**9,845,781**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
General Office Building	9,494,440
Industrial Park	3,238,600
Enclosed Parking with Elevator	1,046,540
Enclosed Parking with Elevator	931,258
Unenclosed Parking Structure	0
Total	**14,710,838**

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
General Office Building	145.630	89.257	2,486,297
Industrial Park	64.632	0.000	718,127
Enclosed Parking with Elevator	0.000	0.000	0
Enclosed Parking with Elevator	0.000	0.000	0
Unenclosed Parking Structure	0.000	0.000	0
Total	210.26	89.26	**3,204,424**

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).

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	
Building (MWh)	14,711
Water (MWh)	3,204
Total (MWh)	17,915
Average Daily Demand	
Building (kWh)	40,304
Water (kWh)	8,779
Total (kWh)	49,083
Average Load	
Building (kW)	1,679
Water (kW)	366
Total (kW)	2,045

Peak Load Calculation

Peak Load (kW)	**3,595**
Systemwide Peak Load (MWh)	5,854
Percent of Peak	0.061%

[1]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: **2018**
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2018	LDA	Aggregatec	Aggregatec	GAS	8824.50	0.00
Los Angeles	2018	LDA	Aggregatec	Aggregatec	DSL	0.00	21.16
Los Angeles	2018	LDT1	Aggregatec	Aggregatec	GAS	1195.14	0.00
Los Angeles	2018	LDT1	Aggregatec	Aggregatec	DSL	0.00	1.12
Los Angeles	2018	LDT2	Aggregatec	Aggregatec	GAS	4228.72	0.00
Los Angeles	2018	LDT2	Aggregatec	Aggregatec	DSL	0.00	1.13
Los Angeles	2018	LHD1	Aggregatec	Aggregatec	GAS	951.76	0.00
Los Angeles	2018	LHD1	Aggregatec	Aggregatec	DSL	0.00	203.36
Los Angeles	2018	LHD2	Aggregatec	Aggregatec	GAS	99.90	0.00
Los Angeles	2018	LHD2	Aggregatec	Aggregatec	DSL	0.00	66.80
Los Angeles	2018	MCY	Aggregatec	Aggregatec	GAS	43.02	0.00
Los Angeles	2018	MDV	Aggregatec	Aggregatec	GAS	4144.63	0.00
Los Angeles	2018	MDV	Aggregatec	Aggregatec	DSL	0.00	1.85
Los Angeles	2018	MH	Aggregatec	Aggregatec	GAS	49.99	0.00
Los Angeles	2018	MH	Aggregatec	Aggregatec	DSL	0.00	13.38
Los Angeles	2018	OBUS	Aggregatec	Aggregatec	GAS	22.19	0.00
Los Angeles	2018	OBUS	Aggregatec	Aggregatec	DSL	0.00	71.18
Los Angeles	2018	SBUS	Aggregatec	Aggregatec	GAS	5.24	0.00
Los Angeles	2018	SBUS	Aggregatec	Aggregatec	DSL	0.00	24.16
Los Angeles	2018	T6	Aggregatec	Aggregatec	GAS	89.87	0.00
Los Angeles	2018	T6	Aggregatec	Aggregatec	DSL	0.00	576.35
Los Angeles	2018	T7	Aggregatec	Aggregatec	GAS	18.68	0.00
Los Angeles	2018	T7	Aggregatec	Aggregatec	DSL	0.00	2187.12
Los Angeles	2018	UBUS	Aggregatec	Aggregatec	GAS	18.22	0.00
Los Angeles	2018	UBUS	Aggregatec	Aggregatec	DSL	0.00	195.08

	7,187,516,669	1,227,380,240
Fuel Usage for Project Construction	207,633	393,101
Percentage of County for Construction	0.0029%	0.032%
Net Fuel Usage for Project Operation	546,646	152,816
Percentage of County for Operation	0.0076%	0.0125%