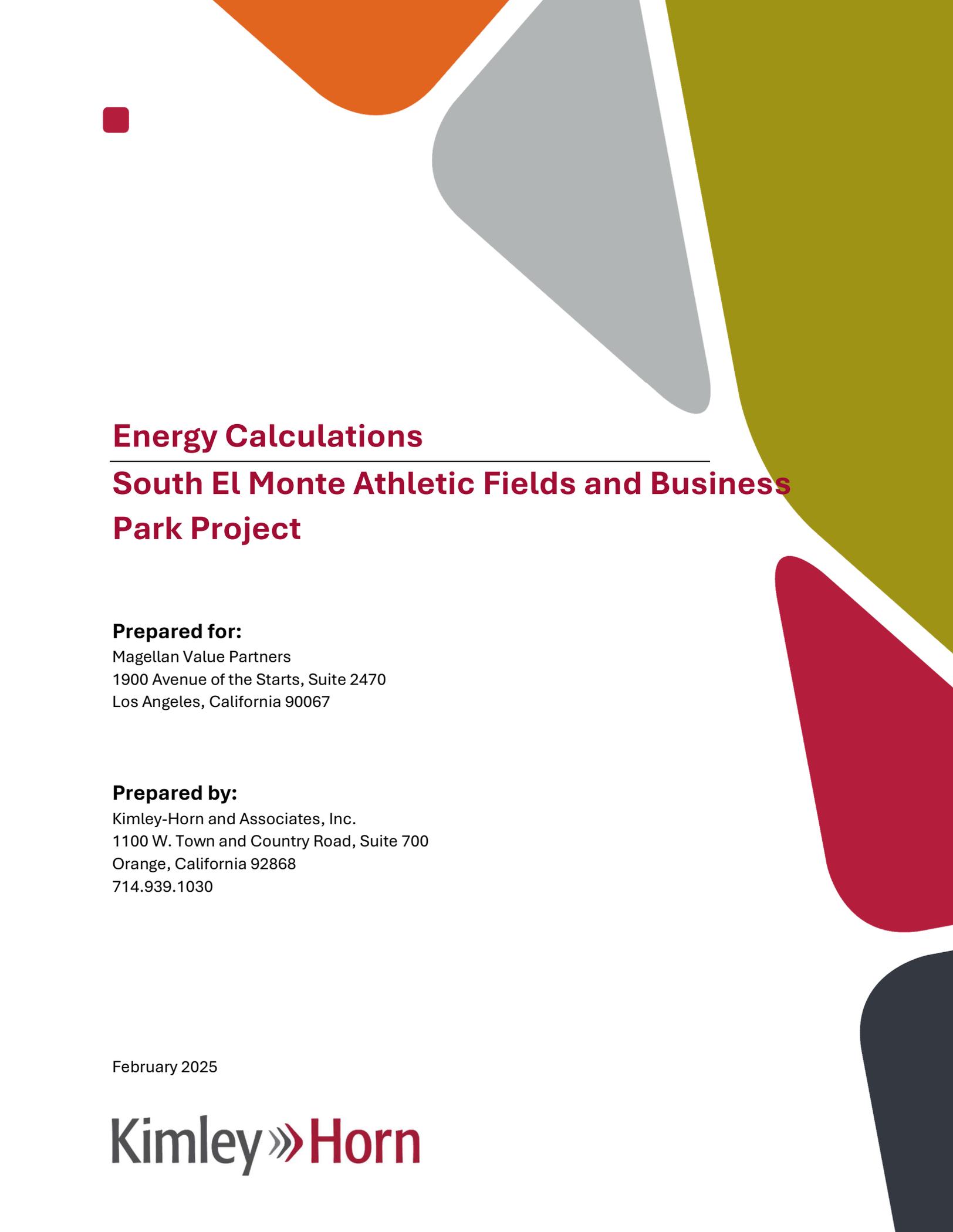


Appendix G

Energy Calculations



Energy Calculations

South El Monte Athletic Fields and Business Park Project

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Construction Water Energy

Daily Soil Disturbance ¹	4	acres
Days of Soil Disturbance ²	43	days
Water Concentration ³	3,020	gallons/acre
Water Energy Intensity ⁴	5,306	kWh/MG
Total Construction Water	0.45	million gallons
Construction Water Energy	2,412	kWh
	0.0024	GWh
Los Angeles County Annual Electricity	68484	GWh
Percentage Increase	0.000%	

Notes:

¹ Total daily acres disturbed from offroad equipment per CalEEMod (3.0 Construction Detail) and maximum SCAQMD LST values for soil-disturbing equipment.

² Number of days of construction (site prep and grading phases) with soil-disturbing equipment per CalEEMod (3.0 Construction Detail).

³ Water application rate per Air and Waste Management Association's Air Pollution Engineering Manual.

⁴ Water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343.

Construction Fuel Consumption

On-Site Diesel ¹	MTCO ₂ e	Gallons of Fuel ⁴	Construction Year 2025 County Fuel	Percent
Demolition	9	916		
Site Preparation/Grading	126	12,301		
Infrastructure Improvements	39	3,835		
Building Construction	30	2,896		
Grading	190	18,625		
Architectural Coating	3	262		
Total	396	38,834	532,570,627	0.0073%

Off-Site Diesel ¹	MTCO ₂ e	Gallons of Fuel ⁴	Construction Year 2025 County Fuel	Percent
Demolition	2	194		
Site Preparation/Grading	71	6,985		
Infrastructure Improvements	0	0		
Building Construction	0	0		
Grading	94	9,191		
Architectural Coating	0	0		
Total	167	16,370	532,570,627	0.0031%

Off-Site Gasoline ²	MTCO ₂ e	Gallons of Fuel ⁴	Construction Year 2025 County Fuel	Percent
Demolition	1	63		
Site Preparation/Grading	5	588		
Infrastructure Improvements	5	592		
Building Construction	4	440		
Grading	98	11,109		
Architectural Coating	5	559		
Total	117	13,351	3,536,229,368	0.0004%

Total Diesel Fuel	564	55,204	532,570,627	0.0104%
Total Gasoline Fuel	117	13,351	3,536,229,368	0.0004%
Total Construction Fuel	681	68,555	4,068,799,995	0.0017%

Construction Phase ³	Demo			Site Preparation/Grading			Infrastructure Improvements		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2025	9.35	1.98	0.55	125.59	71.32	5.16	10.03	0	1.35
2026							29.13	-	3.85
Total	9.35	1.98	0.55	125.59	71.32	5.16	39.16	0	5.2

Construction Phase ³	Paving			Building Construction			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2025				24.16	12.10	12.61			
2026	29.56	-	3.86	166	81.74	84.93	2.67	0	4.91
Total	30	0	4	190	94	98	3	0	5

Notes:

¹ Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

² Fuel used for worker trips assumed to be gasoline.

³ MTCO₂e rates from CalEEMod (3.0 Construction Details).

⁴ For CO₂e emissions, The Climate Registry, June 2023 Default Emission Factors, see Table 1.1 (U.S. Default Factors for Calculating CO₂ Emissions from Combustion of Transport Fuels) <https://theclimateregistry.org/wp-content/uploads/2023/06/2023-Default-Emission-Factors-Final-1.pdf>; Accessed February 2025.

Climate Registry Conversion Ratios:

- Gasoline: 8.78 kg CO₂ per gallon / 1,000 kg per metric ton

- Diesel: 10.21 kg CO₂ per gallon / 1,000 kg per metric ton

Operational Water Energy

Unmitigated indoor	51.3	million gallons
Indoor Energy Intensity Factor ¹	6,807	kWh/MG
Unmitigated Outdoor	0.8	million gallons
Outdoor Energy Intensity Factor ²	5,306	kWh/MG
Operational Water Energy	353,362	kWh
Operational Water Energy	0.3534	GWh
Los Angeles County Annual Electricity	68485	GWh
Percentage Increase	0.00%	

Land Use	Unmitigated (gal/year)	
	Indoor	Outdoor
Warehouse	51294718	791379
City Park	-	-
Warehouse Parking Lot	-	-
Total Operational Water (MG/year)	51	1

Notes:

¹ Indoor water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343. Factor includes supply, treatment, distribution, and wastewater.

² Outdoor water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343. Factor includes supply, treatment, and distribution.

³ Operational water use values: CalEEMod (5.12)

Electricity/Natural Gas Energy

Unmitigated Electricity			
	Unmitigated Project Annual Energy	Los Angeles County Annual Energy (2022)²	Percent of County
Electricity (GWh/yr)	1.18	68,485	0.0017%
Water Electricity (GWh/yr)	0.3534	68,485	0.0005%
Billboard Electricity ³ (GWh/yr)	0.3259	68,485	0.0005%
Total Electricity (GWh/yr)	1.8628862	68,485	0.0027%
Unmitigated Natural Gas			
Natural Gas (kBTU/yr)	4275738		
Natural Gas (therms/yr)	42757	2,820,285,935	0.0015%

Land Use	Unmitigated	
	Electricity¹ (kWh/yr)	Natural Gas² (kBTU/yr)
Warehouse	1038174.714	4275738.367
City Park	-	-
Warehouse Parking Lot	145477.3172	-

Notes:

¹ Energy use per CalEEMod (5.11).

² County total energy values from California Energy Commission energy reports available through cdms.energy.ca.gov.

³ Bill board electricity: 14' x 48' LED Billboard (Florida actual reading) x 2 for a double sided billboard from Illuminating the Issues Digital Signage and Philadelphia's Green Future by Gregory Young

Operational Fuel

UNMITIGATED (Warehouse Trucks)							
Vehicle Type	Percent ¹	Annual VMT ²	MPG ³	Annual Fuel (Gallons)	Fuel Type	Los Angeles County Gallons (2026) ⁴	RS Percent
Passenger Cars	0.0%	0	21.6	0	Gas	3,446,400,365	0.000%
Light/Medium Trucks	39.6%	1,544,578	17.2	89,801	Diesel	535,038,344	0.017%
Heavy Trucks/Other	60.4%	2,352,955	6.1	385,730	Diesel	535,038,344	0.072%
Total	1.00	3,897,534		475,531			0.089%

Land Use	VMT
Warehouse (Trucks)	3897534
Recreational Park	2779127
Parking Lot (Passenger Vehicles)	4721425

UNMITIGATED (Warehouse Passenger Vehicles)							
Vehicle Type	Percent ¹	Annual VMT ²	MPG ³	Annual Fuel (Gallons)	Fuel Type	Los Angeles County Gallons (2026) ⁴	RS Percent
Passenger Cars	94.2%	4,448,104	21.6	205,931	Gas	3,446,400,365	0.006%
Light/Medium Trucks	4.9%	231,940	17.2	13,485	Diesel	535,038,344	0.003%
Heavy Trucks/Other	0.9%	41,381	6.1	6,784	Diesel	535,038,344	0.001%
Total	1.00	4,721,425		20,269			0.010%

UNMITIGATED (Parking Lot)							
Vehicle Type	Percent ¹	Annual VMT ²	MPG ³	Annual Fuel (Gallons)	Fuel Type	Los Angeles County Gallons (2026) ⁴	RS Percent
Passenger Cars	94.2%	2,618,245	21.6	121,215	Gas	3,446,400,365	0.004%
Light/Medium Trucks	4.9%	136,525	17.2	7,937	Diesel	535,038,344	0.001%
Heavy Trucks/Other	0.9%	24,358	6.1	3,993	Diesel	535,038,344	0.001%
Total	1.00	2,779,127		11,931			0.006%

UNMITIGATED MOBILE TOTAL				
Vehicle Type	Annual Fuel (Gallons)	Fuel Type	Los Angeles County Gallons (2026) ⁴	RS Percent
Passenger Cars	327,146	Gas	3,446,400,365	0.009%
Light/Medium Trucks	111,223	Diesel	535,038,344	0.021%
Heavy Trucks/Other	396,507	Diesel	535,038,344	0.074%
Total Diesel	507,731	Diesel	535,038,344	0.095%

Land Use	Fleet Mix												
	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
Warehouse	0	0	0	0	0	0	16.92593	22.7037	0	0	0	0	60.37037
Recreational Park	49.93249476	4.30691205	23.61768931	2.170432545	14.18351829	2.653710544	0.672784	1.091652	0.085492	0.0621874	0.0647065	0.28196881	0.876454
Parking Lot	49.93249476	4.30691205	23.61768931	2.170432545	14.18351829	2.653710544	0.672784	1.091652	0.085492	0.0621874	0.0647065	0.28196881	0.876454

Notes:

¹ Percent of vehicle trip distribution based on fleet mix from CalEEMod

² Total annual operational VMT based on mitigated annual VMT from CalEEMod (5.9 Operational Mobile Sources).

³ Average fuel economy derived from US Energy Information Administration, Monthly Energy Review (Table 1.8), April 2024 (<https://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf>)

⁴ Total annual county fuel per EMFAC 2021 model of projected operational fuel usage in 2026 - first operational year of Project