Construction Off-Road Equipment										
Phase	**Off-Road Equipment Type**	**Amount**	**Usage Hour/Day**	**Total Usage Days**	**Total Usage Hours/Equipment**	**Horsepower**	**Load Factor**	**Total Usage Hours/ Equipment**	**Horsepower-Hour**	**Fuel Usage (gallons)**
Demolition	Rubber Tired Loaders	2	8	160	2560	367	0.4	2560	375808	19241.3696
	Excavators	4	8	160	5120	36	0.38	5120	70041.6	3586.12992
	Cranes	1	8	160	1280	367	0.29	1280	136230.4	6974.99648
	Tractors/Loaders/Backhoes	4	8	160	5120	84	0.37	5120	159129.6	8147.43552
Site Preparation	Rubber Tired Dozers	3	8	95	2280	367	0.4	2280	334704	17136.8448
	Tractors/Loaders/Backhoes	4	8	95	3040	84	0.37	3040	94483.2	4837.53984
Grading	Graders	1	8	250	2000	148	0.41	2000	121360	6213.632
	Excavators	2	8	250	4000	36	0.38	4000	54720	2801.664
	Scrapers	2	8	250	4000	84	0.37	4000	124320	6365.184
	Tractors/Loaders/Backhoes	2	8	250	4000	423	0.48	4000	812160	41582.592
	Rubber Tired Dozers	1	8	250	2000	367	0.4	2000	293600	15032.32
Building Construction	Forklifts	3	8	2480	59520	82	0.2	59520	976128	49977.7536
	Generator Sets	1	8	2480	19840	14	0.74	19840	205542.4	10523.77088
	Cranes	1	7	2480	17360	367	0.29	17360	1847624.8	94598.38976
	Welders	1	8	2480	19840	46	0.45	19840	410688	21027.2256
	Tractors/Loaders/Backhoes	3	7	2480	52080	84	0.37	52080	1618646.4	82874.69568
Paving	Pavers	2	8	175	2800	81	0.42	2800	95256	4877.1072
	Paving Equipment	2	8	175	2800	89	0.36	2800	89712	4593.2544
	Rollers	2	8	175	2800	36	0.38	2800	38304	1961.1648
Architectural Coating	Air Compressors	1	6	2415	14490	37	0.48	14490	257342.4	13175.93088
									Total	**415529.001** Diesel

Construction Truck and Worker Vehicle Fuel Efficiency				
		EMFAC2025 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	93.7	831,362.0	8.9
	HHDT	282.1	1,739,377.5	6.2
	HHDT/MHDT	-	-	7.5
Construction Worker Vehicle	LDA	959.2	24,837,673.5	25.9
	LDT1	121.0	2,690,536.2	22.2
	LDT2	825.0	18,114,890.3	22.0
	Worker Mix	-	-	24.0

Notes:

[1] For construction trucks assumes 50 percent HHDT and 50 percent MHDT vehicles, consistent with assumptions in CalEEMod for hauling trucks. For construction worker vehicles assumes 50 percent LDA, 25 percent LDT1, and 25 percent LDT2 vehicles, consistent with assumptions in CalEEMod for worker vehicles.

[2] EMFAC2025 was run for Orange County for the construction year 2026. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Vehicle Fuel Use - Diesel Vehicles						
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT	Diesel Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Demolition	Hauling	17,600.0	20.0	352,000.0	6.2	57,079.7
Grading	Hauling	21,000.0	20.0	420,000.0	6.2	68,106.4
Building Construction	Vendor	1,309,440.0	10.4	13,618,176.0	7.5	1,811,441.5
					Total	**1,936,627.6**

Diesel

[1] Assumes 100 percent HHDT vehicles for haul trucks and 50 percent HHDT/50 percent MHDT vehicles for MHDT, consistent with assumptions in CalEEMod.

[2] EMFAC2025 was run for Orange County for the construction year 2026. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles							
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)
Demolition	28	160	8,960	18.5	165,760	24.0	6,907.3
Site Preparation	18	95	3,420	18.5	63,270	24.0	2,636.5
Grading	20	250	10,000	18.5	185,000	24.0	7,709.0
Building Construction	1285	2,480	6,373,600	18.5	117,911,600	24.0	4,913,418.1
Paving	15	175	5,250	18.5	97,125	24.0	4,047.2
Architectural Coating	257	2,418	1,242,852	18.5	22,992,762	24.0	958,116.5
						Total	**5,892,834.6**

Gas

Total Construction Gasoline Usage	**5,892,834.6**	1,003,900,000	0.6%	1,009,792,834.60	
Total Construction Diesel Usage	**2,352,156.6**	170,500,000	1.4%	172,852,156.58	

Operational Trips			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	47.85%	21,041	10,068
LDT1	3.47%	21,041	730
LDT2	24.75%	21,041	5,208
MDV	14.86%	21,041	3,127
LHD1	3.03%	21,041	638
LHD2	0.85%	21,041	179
MHD	1.63%	21,041	343
HHD	0.68%	21,041	143
OBUS	0.06%	21,041	13
UBUS	0.09%	21,041	19
MCY	2.39%	21,041	503
SBUS	0.09%	21,041	19
MH	0.29%	21,041	61

Operational Trips – Fuel Efficiency						
Fuel	Vehicle Class	EMFAC2025 Outputs1				
		Fleet Mix (%)2	Consumption (1,000 gallons/day)	VMT (miles/day)	Fuel Efficiency3 (miles/gallon)	
Gas	LDA	43%	959.2	24,837,673.5	25.9	11.0
	LDT1	5%	121.0	2,690,536.2	22.2	1.0
	LDT2	31%	825.0	18,114,890.3	22.0	6.8
	MDV	19%	616.9	11,105,191.77	18.0	3.4
	LHD1	2%	93.9	1,326,150.03	14.1	0.3
	MCY	0%	7.0	279,547.99	39.7	0.2
	MH	0%	12.3	59,886.37	4.9	0.0
	Fleet Mix	–	–	–	22.8	22.8
Diesel	LHD2	17%	29.5	536,679.70	18.2	3.1
	MHDT	27%	93.7	831,362.0	8.9	2.4
	HHDT	56%	282.1	1,739,377.5	6.2	3.5
	Fleet Mix	–	–	–	9.0	9.0

Notes:

[1] EMFAC2025 was run for Orange County for the year 2026. Data was aggregated over all vehicle model years and speed bins.

[2] Fleet mix is based on assumptions made in CalEEMod for the proposed project.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Operational Trips – Fuel Usage						
Land Use	Total Annual VMT2 (miles/year)	Fuel Type	Portion of Fleet3 (%)	VMT by Fuel Type (miles/year)	Fleet Mix Efficiency4 (miles/gallon)	Fuel Usage (gallons/ year)
Apartments Low Rise	2,074,379.00	Gas	97%	2,008,414.5	22.8	88,157.1
		Diesel	3%	65,550.4	9.0	7,311.6
Apartments Mid Rise	774,037.00	Gas	97%	749,422.9	22.8	32,895.1
		Diesel	3%	24,459.6	9.0	2,728.3
Single Family Housing	1,119,382.00	Gas	97%	1,083,786.1	22.8	47,571.6
		Diesel	3%	35,372.5	9.0	3,945.5
Regional Shopping Center	3,716,284.00	Gas	97%	3,598,107.6	22.8	157,934.9
		Diesel	3%	117,434.6	9.0	13,098.9
					Total Gasoline/year	**326,558.6**
					Total Diesel/year	**27,084.4**

Notes:

[1] Calculated for year 2026 only. Future years will likely use less fuel due to more efficient cars.

[2] Total VMT is based on project's trip generation and trip lengths.

[3] Fleet distribution is based on EMFAC2025 output and CalEEMod assumptions.

[4] Fuel efficiency is based on fuel consumption and VMT data from EMFAC2025 for Orange County and total VMT.

Proposed Project Electricity Usage	
Electricity by Land Use	**kWh/year**
Apartments Low Rise	3,347,995
Apartments Mid Rise	1,873,241
Single Family Housing	2,827,009
Regional Shopping Center	4,321,401
Other Asphalt Surfaces	0
City Park	0
Total	**12,369,646**

Proposed Project Natural Gas Usage			
Natural Gas by Land Use	**kBTU/year**	**BTU/year**	**therms/year**
Apartments Low Rise	14,234,855	14,234,855,000	142,377
Apartments Mid Rise	5,675,597	5,675,597,000	56,767
Single Family Housing	15,717,492	15,717,492,000	157,206
Regional Shopping Center	2,634,255	2,634,255,000	26,348
Other Asphalt Surfaces	-	-	-
City Park	-	-	-
Total	**14,234,855**	**14,234,855,000**	**142,377**