

Fuel and Energy Calculations

Gasoline and Diesel Use

Existing Annual VMT: 135,930 miles			Fuel	
Fleet Mix	91% Auto	123,696 miles	20.4 mpg gas	6,064 gallons
	9% Other	12,234 miles	5.71 mpg diesel	2,143 gallons

Project Annual VMT: 14,230,282 miles			Fuel	
Fleet Mix	91% Auto	12,949,557 miles	20.4 mpg gas	634,782 gallons
	9% Other	1,280,725 miles	5.7 mpg diesel	224,689 gallons

Worker Fuel (Gasoline, on-road)

Phase	Trips	Length (mi)	Days	Total (mil)	MPG	Gallons
Demolition	30	14.7	44	6,745,536	20.4	330,664
Grading	150		23			
Site Prep	110		83			
Construction	550		722			
Arch Coating	60		798			
Total		14.7		6,745,536	20.4	330,664

Vender Fuel (Diesel, on-road)

Phase	Trips	Length (mi)	Days	Total (mil)	MPG	Gallons
Demolition	0	6.9	44	742,2880	5.71	129,998
Grading	0		23			
Site Prep	0		83			
Construction	149		722			
Arch Coating	0		798			
Total		6.9		742,2880	5.71	129,998

Haul Fuel (Diesel, on-road)

Phase	Trips	Length (mi)	Total (mil)	MPG	Gallons
Demolition	2,545	50	127,250	5.71	32,891
Grading	1,514	40	60,560		
Total			187,810		

Construction Equipment (Diesel, off-road)

Phase	Equipment	Units	Hours	HP	Load Factor	Ave. Daily Load Factor	Days	HP-Hours
Site 1								
Demolition Tower 1B	Air Compressor	1	6	78	0.48	1	16	2,157
Architectural Coating Tower 1A	Cement and Mortar Mixers	4	6	9	0.56	1	219	15,894
Demolition Tower 1A	Concrete/Industrial Saws	1	8	81	0.73	1	13	3,690
Grading Tower 1A	Concrete/Industrial Saws	1	8	81	0.73	1	9	2,554
Building Construction Tower 1A	Cranes	1	4	231	0.29	1	241	38,747
Building Construction Tower 1A	Forklifts	2	6	89	0.20	1	241	30,887
Site Preparation Tower 1A	Graders	1	8	187	0.41	1	26	9,568
Architectural Coating Tower 1A	Pavers	1	7	130	0.42	1	219	50,221
Architectural Coating Tower 1A	Rollers	1	7	80	0.38	1	219	27,962
Demolition Tower 1A	Rubber tired dozers	1	1	547	0.40	1	13	1,707
Grading Tower 1A	Rubber tired dozers	1	1	247	0.40	1	9	534
Building Construction Tower 1A	Tractors/Loaders/Backhoes	2	8	97	0.37	1	241	83,035
Demolition Tower 1A	Tractors/Loaders/Backhoes	2	6	97	0.37	1	13	3,359
Grading Tower 1A	Tractors/Loaders/Backhoes	2	6	97	0.37	1	9	2,326
Architectural Coating Tower 1A	Tractors/Loaders/Backhoes	1	7	97	0.37	1	219	33,012
Site Preparation Tower 1A	Tractors/Loaders/Backhoes	1	8	97	0.37	1	26	4,479

Architectural Coating Tower 1B	Air Compressor	1	6	78	0.48	1	240	32,348
Architectural Coating Tower 1A	Air Compressor	1	6	78	0.48	1	219	29,518
Demolition Tower 1B	Concrete/Industrial Saws	1	8	81	0.73	1	16	4,541
Grading Tower 1B	Concrete/Industrial Saws	1	8	81	0.73	1	7	1,987
Building Construction Tower 1B	cranes	1	4	231	0.29	1	241	38,747
Building Construction Tower 1B	Forklifts	2	6	89	0.20	1	241	30,887
Site Preparation Tower 1B	Graders	1	8	187	0.41	1	25	9,200
Demolition Tower 1B	Rubber tired dozers	1	1	247	0.40	1	16	948
Grading Tower 1B	Rubber tired dozers	1	1	247	0.40	1	7	415
Building Construction Tower 1B	Tractors/Loaders/Backhoes	2	8	97	0.37	1	241	83,035
Demolition Tower 1B	Tractors/Loaders/Backhoes	2	6	97	0.37	1	16	4,135
Grading Tower 1B	Tractors/Loaders/Backhoes	2	6	97	0.37	1	7	1,809
Site Preparation Tower 1B	Tractors/Loaders/Backhoes	1	8	97	0.37	1	25	4,307
Site 2								
Building Construction	Generator Sets	1	8	87	0.74	1	240	123,610
Grading	Graders	1	6	187	0.41	1	7	3,220
Building Construction	Cranes	1	6	231	0.29	1	240	96,466
Building Construction	Forklifts	1	6	89	0.20	1	240	25,632
Site Preparation	Graders	1	8	187	0.41	1	32	19,628
Site Preparation	Rubber tired dozers	1	7	247	0.40	1	32	22,131
Grading	Rubber tired dozers	1	6	247	0.40	1	7	4,150
Building Construction	Tractors/Loaders/Backhoes	1	6	97	0.37	1	340	73,216
Grading	Tractors/Loaders/Backhoes	1	7	97	0.37	1	7	1,759
Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37	1	32	9,188
Architectural Coating	Air Compressor	1	6	78	0.48	1	239	53,689
Demolition	Concrete/Industrial Saws	1	8	81	0.73	1	15	7,096
Building Construction	Welders	3	8	46	0.45	1	240	119,232
Demolition	Rubber tired dozers	1	8	241	0.40	1	15	11,568
Demolition	Tractors/Loaders/Backhoes	3	8	91	0.37	1	105	84,848
								1,207,438

1,207,438 hp-hours = 60,372 gallons diesel

Water Usage for fugitive dust control during construction

Water application rate = 3,020 gallons/acre/day

Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).

Grading 23 days x 1.75 acres x 3,020 gallons = 121,555 gallons x 0.009727 = 1,182 kWhr