

**TABLE 3  
SACRAMENTO TERMINAL  
CONSTRUCTION AND OPERATION EMISSIONS SUMMARY**

Construction Engine Emissions

SOURCE	SIZE / GROSS HP	DAILY AMOUNT (1) (hrs or trips)	NUMBER OF DAYS	NUMBER OF UNITS	ONE-WAY DISTANCE (miles)	NO <sub>x</sub>			ROG			PM <sub>10</sub>			SO <sub>x</sub>			CO			NOTES	
						EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)	EF (2)	Daily (lbs/day)	Total (tons)		
<b>Site Grading (22 cy)</b>																						
Backhoe Loader	200	2	1	1	-	2370	10	0.0052	180	0.8	0.0004	15	0.07	0.00003	135	0.6	0.0003	205	0.9	0.0005	6	
Vac Truck	153	2	1	1	-	1660	7.3	0.0037	110	0.5	0.0002	15	0.07	0.00003	105	0.5	0.0002	110	0.5	0.0002	6	
Surveying Lt-Heavy Duty Truck	117	6	1	1	-	780	10	0.0052	72	1.0	0.0005	44	0.58	0.0003	85	1.1	0.0006	105	1.4	0.0007	6	
Lt-Heavy Duty Truck	10 cu yd	2	1	1	30	11.3	3.0	0.0015	2.2	0.6	0.0003	0.59	0.2	0.00008	0.31	0.08	0.00004	14	3.7	0.0019	7	
Worker Light Truck	175	2	1	-	30	18.4	4.9	0.0024	4.4	1.15	0.0006	0.84	0.222	0.000111	0.31	0.082	0.000041	35	9.1	0.0046	6	
Equipment Delivery Truck	Low boy	3	1	-	30	11.3	4.5	0.0022	2.2	0.9	0.0004	0.59	0.23	0.0001	0.31	0.12	0.0001	14	5.6	0.0028	7	
Worker Light Truck	Light	4	1	-	30	1.0	0.53	0.0003	0.35	0.19	0.0001	0	0	0	0.06	0.03	0.00002	7.22	3.8	0.0019	7	
<b>Maxima and Subtotals (Site Grading)</b>							23	0.02		3.7	0.0025		1.2	0.0007		1.4	0.0013		23.6	0.013		
<b>Gutting of Building Interior/Roof (600 cu.yds.)</b>																						
Semi-end Dump Trucks	20 ton	7	3	-	100	11.3	35	0.052	2.2	6.8	0.0102	0.59	1.8	0.0027	0.31	1.0	0.0014	14	43	0.065	7	
Worker Light Truck	Light	12	3	-	30	1.00	1.6	0.0024	0.35	0.6	0.0008	0	0	0	0.06	0.1	0.00014	7.2	11	0.0172	7	
<b>Maxima and Subtotals (Demolition)</b>							36	0.05		7.3	0.0110		1.8	0.0027		1.1	0.0016		55	0.08		
<b>Pad Construction (28cy)</b>																						
Cement Truck	10 yd3	3	1	-	30	11.3	4.5	0.0022	2.2	0.9	0.0004	0.59	0.2	0.0001	0.31	0.1	0.00006	14	5.6	0.0028	7	
Gravel Truck	10 yd3	3	1	-	30	11.3	4.5	0.0022	2.2	0.9	0.0004	0.59	0.2	0.0001	0.31	0.1	0.00006	14	5.6	0.0028	7	
Worker Light Truck	Light	4	1	-	30	1.00	1	0.0003	0.35	0.2	0.0001	0	0	0	0.06	0.0	0.00002	7.2	3.8	0.0019	7	
<b>Maxima and Subtotals (Pad Construction)</b>							9.5	0.00		1.9	0.0010		0.47	0.0002		0.3	0.00014		15.0	0.01		
<b>Trenching &amp; Utility Installation (350cy)</b>																						
Excavator	84	8	12	1	-	774	14	0.082	64	1.1	0.0068	13	0.2	0.0014	58	1.0	0.0061	79	1.4	0.008	6	
Equipment Delivery Truck	Low boy	1	2	-	30	11.3	1.5	0.001	2.2	0.3	0.0003	0.59	0.1	0.0001	0.31	0.0	0.00004	14	1.9	0.002	7	
Worker Light Truck	Light	2	12	-	30	1.00	0.3	0.002	0.35	0.1	0.0006	0	0	0	0.06	0.0	0.00010	7.2	1.9	0.011	7	
<b>Maxima and Subtotals (Trenching and Utility Installation)</b>							15	0.08		1.5	0.0076		0.31	0.0015		1.1	0.0062		5.2	0.02		
<b>Shelter Placement</b>																						
Crane	150 ton	2	1	1	-	576	2.5	0.001	82	0.4	0.000	64	0.3	0.000	41	0.2	0.0001	1624	7.2	0.004	8	
Equipment Delivery Truck	Low boy	1	1	-	150	11.3	7.4	0.004	2.2	1.5	0.001	0.59	0.4	0.000	0.31	0.2	0.0001	14	9.3	0.005	7	
Worker Light Truck	Light	2	1	-	30	1.00	0.3	0.0001	0.35	0.1	0.00005	0	0	0	0.06	0.02	0.00001	7.2	1.9	0.001	7	
<b>Maxima and Subtotals (Shelter Placement)</b>							10.2	0.005		1.9	0.001		0.67	0.000		0.4	0.0002		18.4	0.01		
<b>General Construction Activities</b>																						
Compactor	<25 hp	1	1	1	-	8	0.02	0.00001	227	0.5	0.0002	1.4	0.003	0.000001	0	0	0	6350	14	0.007	8	
Equipment Delivery Truck	Low boy	1	1	-	30	11.3	1.5	0.001	2.2	0.3	0.0001	0.59	0.08	0.00004	0.31	0.04	0.00002	14	1.9	0.001	7	
Construction Generator	<50 hp	8	12	1	-	0.02	0.0003	0.000002	0.002	0.00004	0.0000002	0.001	0.00002	0.0000001	0.002	0.00004	0.0000002	0.011	0.0002	0.000001	8	
Water Truck	4500 gal.	1	2	-	30	11.3	1.5	0.001	2.2	0.29	0.0003	0.59	0.08	0.0001	0.31	0.04	0.00004	14.0	1.9	0.002	6	
Worker Light Truck	Light	1	17	-	30	1.0	0.13	0.001	0.35	0.05	0.0004	0	0	0	0.06	0.008	0.00007	7.2	1.0	0.008	7	
<b>Maxima and Subtotals (General Construction)</b>							3.1	0.003		1.1	0.0011		0.2	0.0001		0.09	0.00013		19	0.02		
<b>Maxima and Subtotals, Construction Engine Emissions<sup>(3)</sup></b>							36	0.17		7.3	0.024		1.8	0.0056		1.4	0.0095		55	0.151		
<b>Total Construction Emissions (Fugitive plus exhaust)</b>								0.17			0.024		12.1	0.05			0.0095			0.151		
<b>Construction Thresholds</b>								82 lbs/day	--		82 lbs/day	--		82 lbs/day	--		--		--	--		17
<b>Insignificant Impact<sup>(9)</sup></b>							Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		

Construction Fugitive Dust Emissions

SOURCE	DAILY AMOUNT (hours)	DAYS OF ACTIVITY	AREA OF GRADING / TRENCHING	PM <sub>10</sub> EMISSIONS			NOTES
				EF	(daily lbs)	(total tons)	
Site Grading	8	3	0.22 acres	60.7 lb/acre-day	8.67	0.01301	12, 16
Trenching - Cable Installation	8	12	-	0.51 lb/hr	4.1	0.024	
Wind Erosion	24	12	0.24 acres	6.6 lb/acre-day	1.60	0.0096	11
<b>Subtotal, Construction Fugitive Emissions<sup>(3)</sup></b>					10.3	0.047	15
<b>Total PM10 Construction Emissions (Engine Exhaust and Fugitive)<sup>(3)</sup></b>					0.053		

(Continued)

Operation Emissions <sup>(4)</sup>

SOURCE	SIZE / GROSS HP	DAILY AMOUNT (hours)	DAYS OF ACTIVITY	NUMBER OF UNITS	ONE-WAY DISTANCE (miles)	NO <sub>x</sub>			ROG			PM <sub>10</sub>			SO <sub>x</sub>			CO			NOTES
						EF	Daily	Annual	EF	Daily	Annual	EF	Daily	Annual	EF	Daily	Annual	EF	Daily	Annual	
						(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	(g/hr) <sup>(2)</sup>	(lbs/day)	(tons/year)	
Emergency Generator	2136 (2000kW)	0.5	60	1		24,308	27	0.80	445	0.49	0.01	227	0.25	0.008	392	0.43	0.013	1,175	1.30	0.04	4
Worker Light Truck	Light	-	260	3	30	1.0	0.40	0.052	0.35	0.14	0.018	0	0	0	0.06	0.024	0.0031	7.2	2.87	0.37	7
<b>Total Operation Emissions <sup>(5)</sup></b>							27	0.86		0.63	0.03		0.25	0.01		0.46	0.016		4.16	0.41	
<b>Operation Thresholds</b>							82 lbs/day			82 lbs/day			82 lbs/day		--			550 lbs/day			17
<b>Insignificant Impact <sup>(10)</sup></b>							Yes			Yes			Yes		Yes			Yes			

'- = Not applicable

Unit abbreviations: g/hr = grams per hour, lb/day = pounds per day, tpy = tons per year, tpq = tons per quarter

(1) Daily amount is measured in hours for off-road construction equipment (e.g., grader), and in number of trips for on-road vehicles (e.g., worker light-truck).

(2) Emission factors are in grams per hour for off-road equipment, and in grams per mile for on-road vehicles.

(3) Construction engine emission subtotals are for the complete project. Major pieces of construction off-road equipment (e.g., grader, dozer) are used consecutively, not concurrently.

(4) Operation and construction will not occur simultaneously, and hence, the emissions are not additive.

(5) Operational emission totals are for the project. Only one generator will be tested on a single day.

(6) Emission factors are from Caterpillar Corp.

(7) EMFACT7G Emission Factors (1998, 15mph, 75°F)

(8) SCAQMD CEQA Handbook, Table A9-8-B

(9) Construction emissions have insignificant impact when no emission of a major piece of off-road equipment exceeds threshold (i.e., major pieces are used consequently, not concurrently).

(10) Operation emissions have an insignificant impact if emergency generators are exempt from regulatory limits or if no regulations apply.

(11) Number of days subject to wind erosion equal to days for trenching.

(12) Area to be graded is sum of 115 by 66 foot fenced compound area of equipment yard plus a 10 foot perimeter band.

(13) The 30-minute test cycle will be conducted mostly at 50 percent load. To be conservative, the horsepower is stated and emissions are calculated at 75 percent load.

(14) Construction and operations threshold were obtained from SMAQMD's "Air Quality Thresholds of Significance, First Edition", 1994.

(15) Daily construction fugitive emissions includes the specific activity plus wind erosion.

(16) Emission factor from YSAQMD Air Quality Handbook, Appendix D, for fugitive dust emissions in the absence of dust control measures.

(17) Significance criteria from the YSAQMD Air Quality Handbook (1996).