

APPENDIX 3.1A

Construction Emission Estimates

AES Highgrove

Supplement C

Table 3.1A-1 Offsite Construction Emissions (Supplement to AFC Appendix 8.1A)

Table 3.1A-1a: Offsite Water Line Construction Requirements

Equipment/Vehicles	Peak Number	Hours per Day or Miles per Day
Front End Loader/Backhoe	2	8
Generator	1	8
Roller Vibrator	1	8
Dump Truck	1	40
Truck (fuel/lube, pickup, and stakebed)	5	40
Worker Communte	25	40
Duration (months)	2	

The value for 'Peak Number' represents the equipment needs for the peak week (week 5) of the water line construction schedule. It was assumed that construction equipment would operate 8 hours per day and vehicles would travel 40 miles per day.

Table 3.1A-1b: Offsite Water Line Construction Equipment and Vehicle Emission Factors

Equipment	CO (lbs/hr)	VOC (lbs/hr)	NO _x (lbs/hr)	SO _x (lbs/hr)	PM ₁₀ (lbs/hr)
Front End Loader/Backhoe	0.42	0.13	0.82	0.0035	0.08
Generator	0.23	0.08	0.32	0	0.03
Roller Vibrator	0.36	0.08	0.70	0.0042	0.05
Vehicles	CO (lbs/mile)	VOC (lbs/mile)	NO _x (lbs/mile)	SO _x (lbs/mile)	PM ₁₀ (lbs/mile)
Dump Truck	0.0055	0.0012	0.0356	0.000046	0.059551
Truck (fuel/lube, pickup, and stakebed)	0.0128	0.0014	0.0014	0.000009	0.004375
Worker Communte	0.0128	0.0014	0.0014	0.000009	0.004375

To maintain consistency with the AFC filed on May 25, 2006, the construction emission factors from May 2006 were used to calculate water line construction emissions instead of the SCAQMD OFFROAD 2007 emission factors updated in December 2006.

Table 3.1A-1c: Offsite Emissions from Water Line Construction

Equipment	CO (lbs/day)	VOC (lbs/day)	NO _x (lbs/day)	SO _x (lbs/day)	PM ₁₀ (lbs/day)
Front End Loader/Backhoe	6.70	2.00	13.06	0.06	1.33
Generator	1.86	0.63	2.54	0.00	0.27
Roller Vibrator	2.91	0.62	5.58	0.03	0.41
Dump Truck	0.22	0.05	1.43	0.00	2.38
Truck (fuel/lub, pickup, and stakebed)	2.56	0.28	0.27	0.00	0.87
Worker Communte	12.82	1.38	1.36	0.01	4.37
Maximum Daily Emissions (lbs/day)	27.1	5.0	24.2	0.10	9.6
Water Line Construction Total (tons)^a	0.60	0.11	0.53	0.00	0.21

^a Conservatively assumes that peak construction occurs 22 days/month during the two month construction period.

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Supplement C

Table 3.1A-2 Construction Schedule for 12" City Line (Supplement to AFC Appendix 8.1A)

Construction Equipment	Equipment Horsepower	Load Factor (1)	WEEK							
			1	2	3	4	5	6	7	8
			MTWTFSS							
Front end loader/backhoe, diesel (EXCAVATE)	150	0.38			22222	22222	XXXXX	XXXXX	XXXXX	
Front end loader/backhoe, diesel (PAVE)	150	0.30					X	X	X	X
Roller vibrator, diesel (PAVE)	100	0.59					X	X	X	X
Transit mix trucks (BACKFILL)	250	0.65				XX	XX	XX	XX	
Dump trucks (PAVE)	235	0.65							X	X
Dump trucks (EXCAVATE)	235	0.60			XXXXX	XXXXX	XXXXX	XXXXX		
SAW CUT DIESEL	60	0.45		X		X	X	X	X	
Air compressor, diesel (750 cfm) (BACKFILL)	25	0.48				XX	XX	XX	XX	
Generator, diesel (6 kW) (PIPE INSTALL)	30	0.74			XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	
Fuel/lube truck (GENERAL SERVICE)	175	0.65			XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	X
Pickup truck, ½-ton 2WD (GENERAL SERVICE)	200	0.20	22222	22222	33333	33333	33333	33333	33333	XXXXX
Stakebed truck (PIPE INSTALL)	175	0.50			XXXXX	XXXXX	XXXXX	XXXXX		
Weekly Manhours (7,059 total hours)			320	480	1,181	1,245	1,261	1,261	901	410
Daily Manpower Loading			6	10	22	24	25	25	18	8

NOTE:

X=SINGLE PIECE OF EQUIPMENT

2=2 PIECES OF EQUIPMENT