

Appendix E

Air Quality & Greenhouse Gas Emissions Calculations

LA RIVER PATH



Metro®

Attachment 1
Proposed Project
Construction Emissions Calculations

Construction Emissions Summary: Proposed Project

Daily Emissions Summary - Onsite and Offsite (Project-wide)

Year	Maximum Daily Emissions					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2025	7.41	67.09	152.80	0.39	11.08	3.96
2026	6.33	55.44	121.95	0.33	8.98	3.27
2027	9.73	87.14	191.13	0.49	13.57	4.92
SCAQMD CEQA Thresholds	75	100	550	150	150	55
Exceeding Thresholds?	N	N	N	N	N	N

SCAQMD CEQA thresholds from <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>

Construction Emissions Summary: Onsite only, within one construction segment)

Year	Maximum Daily Emissions Onsite					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2025	4.07	35.86	80.43	0.17	0.86	0.81
2026	4.08	34.62	76.16	0.17	0.86	0.80
2027	6.09	51.13	101.27	0.24	1.29	1.20
SCAQMD LST Thresholds for Central Los Angeles @ 25m	NA	74	680	NA	5	3
Exceed LST Thresholds	NA	N	N	NA	N	N

SCAQMD LST Thresholds from <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>

Annual Emissions Summary

Year	Annual Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year
2025	0.49	4.48	10.01	0.03	0.73	0.26	2,413.9
2026	0.38	3.39	7.15	0.02	0.53	0.20	1,845.9
2027	0.51	4.43	8.99	0.03	0.67	0.25	2,331.9

Construction Emissions by Activity - Proposed Project

Emissions from Construction of Each Individual Activity

Activity	Sources	Daily Emissions (onsite and offsite, including dust)							Daily Emissions (Onsite exhaust only)						
		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
		lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	equipment	0.829	5.157	7.122	0.025	0.177	0.164	2663.017	0.829	5.157	7.122	0.025	0.177	0.164	2663.017
	vehicles	0.009	0.042	0.667	0.002	0.015	0.005	241.589	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.252	0.063	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.838	5.199	7.789	0.028	0.444	0.232	2904.606	0.829	5.157	7.122	0.025	0.177	0.164	2663.017
Cant FM/PR/ST	equipment	0.095	0.932	2.361	0.005	0.020	0.019	460.323	0.095	0.932	2.361	0.005	0.020	0.019	460.323
	vehicles	0.008	0.036	0.563	0.002	0.013	0.004	203.803	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.212	0.053	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.102	0.968	2.924	0.007	0.245	0.076	664.126	0.095	0.932	2.361	0.005	0.020	0.019	460.323
Cant Finish	equipment	0.047	1.103	1.546	0.002	0.008	0.008	223.474	0.047	1.103	1.546	0.002	0.008	0.008	223.474
	vehicles	0.005	0.021	0.333	0.001	0.008	0.003	120.794	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.126	0.031	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.052	1.124	1.879	0.004	0.142	0.042	344.269	0.047	1.103	1.546	0.002	0.008	0.008	223.474
Incised Prep/Placement	equipment	0.863	6.174	14.003	0.033	0.181	0.169	3494.162	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
	vehicles	0.018	0.083	1.312	0.005	0.030	0.010	475.741	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.704	0.147	NA	NA	NA	NA	NA	0.207	0.022	NA
	Sub Total	0.881	6.257	15.315	0.038	0.914	0.325	3969.903	0.863	6.174	14.003	0.033	0.388	0.191	3494.162
Incised Finish	equipment	0.097	1.353	5.057	0.007	0.019	0.018	727.167	0.097	1.353	5.057	0.007	0.019	0.018	727.167
	vehicles	0.015	0.070	1.104	0.004	0.025	0.009	400.169	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.417	0.104	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.113	1.423	6.161	0.011	0.461	0.131	1127.336	0.097	1.353	5.057	0.007	0.019	0.018	727.167
EL/BRDG Prep	equipment	0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058	1059.423
	vehicles	0.008	0.036	0.563	0.002	0.013	0.004	203.803	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.212	0.053	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.293	1.873	3.572	0.010	0.062	0.058	1059.423
EL/BRDG Foundations	equipment	0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
EL/BRDG Column	equipment	0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.127	1.507	3.103	0.006	0.028	0.026	568.754
EL/BRDG Spans	equipment	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	NA	NA	NA
	Sub Total	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.142	2.036	3.906	0.007	0.029	0.027	683.797
Top (TB)(AG)	equipment	1.495	10.068	17.937	0.051	0.317	0.294	5340.819	1.495	10.068	17.937	0.051	0.317	0.294	5340.819
	vehicles	0.024	0.111	1.750	0.006	0.040	0.014	634.321	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.869	0.188	NA	NA	NA	NA	NA	0.207	0.022	NA
	Sub Total	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	1.495	10.068	17.937	0.051	0.524	0.317	5340.819
Dust Control	equipment	1.338	8.210	8.875	0.038	0.287	0.265	4008.986	1.338	8.210	8.875	0.038	0.287	0.265	4008.986
	vehicles	0.005	0.021	0.333	0.001	0.008	0.003	120.794	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.126	0.031	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	1.343	8.231	9.209	0.039	0.421	0.299	4129.780	1.338	8.210	8.875	0.038	0.287	0.265	4008.986
Offsite hauling	equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	vehicles	0.023	3.045	0.121	0.027	0.251	0.201	2942.700	NA	NA	NA	NA	0.000	0.000	NA
	dust	NA	NA	NA	NA	0.546	0.136	NA	NA	NA	NA	NA	NA	NA	NA

Construction Emissions by Activity - Proposed Project

Sub Total	0.023	3.045	0.121	0.027	0.798	0.338	2942.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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Emissions from Each Construction Activity

Activity	Maximum Daily Emissions							Onsite Daily Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.84	5.20	7.79	0.03	0.44	0.23	2904.61	0.83	5.16	7.12	0.03	0.18	0.16	2663.02
Cant FM/PR/ST	0.10	0.97	2.92	0.01	0.24	0.08	664.13	0.09	0.93	2.36	0.00	0.02	0.02	460.32
Cant Finish	0.05	1.12	1.88	0.00	0.14	0.04	344.27	0.05	1.10	1.55	0.00	0.01	0.01	223.47
Incised Prep/Placement	0.88	6.26	15.32	0.04	0.91	0.33	3969.90	0.86	6.17	14.00	0.03	0.39	0.19	3494.16
Incised Finish	0.11	1.42	6.16	0.01	0.46	0.13	1127.34	0.10	1.35	5.06	0.01	0.02	0.02	727.17
EL/BRDG Prep	0.30	1.91	4.13	0.01	0.29	0.12	1263.23	0.29	1.87	3.57	0.01	0.06	0.06	1059.42
EL/BRDG Foundations	0.40	3.12	8.74	0.02	0.43	0.17	1991.36	0.39	3.07	7.86	0.02	0.08	0.08	1674.20
EL/BRDG Column	0.14	1.56	3.98	0.01	0.38	0.12	885.91	0.13	1.51	3.10	0.01	0.03	0.03	568.75
EL/BRDG Spans	0.15	2.09	4.78	0.01	0.38	0.12	1000.96	0.14	2.04	3.91	0.01	0.03	0.03	683.80
Top (TB)(AG)	1.52	10.18	19.69	0.06	1.23	0.50	5975.14	1.50	10.07	17.94	0.05	0.52	0.32	5340.82
Dust Control	1.34	8.23	9.21	0.04	0.42	0.30	4129.78	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
Offsite hauling	0.02	3.05	0.12	0.03	0.80	0.34	2942.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Onsite Equipment Emissions Proposed Project

Onsite Equipment Information and Emission Factors

							CalEEMod Emission Factors (100% load)									
			HP	Hour/day			ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Equipment	Equipment Number	per equipment	per equipment	Emission factor Year	CalEEMod Default Load Factor	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
Cant Prep	Saw	1	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super 10	3	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
Cant FM/PR/ST	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
Cant Finish	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Manlift	1	46	6.4	2025	0.31	0.090	2.750	4.100	0.005	0.010	0.010	586.900	0.024	0.005	588.990
Incised Prep/Placement	Saw	2	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	gannon	1	148	6.4	2025	0.41	0.050	0.260	3.700	0.005	0.010	0.010	531.194	0.022	0.004	532.936
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	soil boring machine (tiebacks)	1	83	6.4	2025	0.50	0.050	0.260	3.700	0.005	0.010	0.010	522.567	0.021	0.004	524.284
	Grout Pump	1	11	0.8	2025	0.74	0.474	4.334	3.001	0.008	0.181	0.166	568.244	0.023	0.005	570.309
	Shotcrete truck	1	376	6.4	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	18 wheeler	1	376	1.6	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Excavator	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	587.238	0.024	0.005	589.328
Incised Finish	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	steel drum roller B26	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	586.902	0.024	0.005	588.992
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
	Riding float	1	89	4.0	2025	0.36	0.050	0.260	3.700	0.005	0.010	0.010	527.686	0.021	0.004	529.403
EL/BRDG Prep	Saw	1	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
EL/BRDG Foundations	LB 28 Heavy Duty Soil drill	1	83	6.4	2025	0.50	0.050	0.260	3.700	0.005	0.010	0.010	522.567	0.021	0.004	524.284
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Wheel loader	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
EL/BRDG Column	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
EL/BRDG Spans	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Manlift	1	46	6.4	2025	0.31	0.090	2.750	4.100	0.005	0.010	0.010	586.900	0.024	0.005	588.990
	Saw	2	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Super10	5	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	gannon	1	148	6.4	2025	0.41	0.050	0.260	3.700	0.005	0.010	0.010	531.194	0.022	0.004	532.936
	steel drum roller B26	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	586.902	0.024	0.005	588.992

Onsite Equipment Emissions Proposed Project

Top (TB)(AG)	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
	Riding float	1	89	4.0	2025	0.36	0.050	0.260	3.700	0.005	0.010	0.010	527.686	0.021	0.004	529.403
	Front End Loader	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
Dust Control	Water truck	3	376	8.0	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304

- Note
1. CO2e were calculated using the following global warming potential (GWP, 100-year GWP from CalEEMod 2022.1 User Guide, Appendix G, Table G-39.)
- CO2 1
CH4 25
N2O 298
2. Load factor and emission factors are from CalEEMod 2022.1 User Guide, Appendix G, Table G-12
3. Offsite equipment Efs for CO, Nox, ROG, PM10 and PM2.5 are Tier 4 emission factors per CalEEMod 2022.1 User's Guide Appendix G: Default Data Tables, Table G-13. Other emission factors are default emission factors per calendar year from CalEEMod 2022.1 User's Guide Appendix G: Default Data Tables, Table G-11.

Onsite Equipment Emissions

Activity	Equipment	Daily Emissions						
		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
		lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	Saw	0.00	0.12	0.17	0.00	0.00	0.00	24.52
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super 10	0.80	4.93	5.33	0.02	0.17	0.16	2405.39
Cant FM/PR/ST	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
	Generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
Cant Finish	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	Generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Manlift	0.02	0.55	0.82	0.00	0.00	0.00	118.50
Incised Prep/Placement	Saw	0.01	0.23	0.35	0.00	0.00	0.00	49.04
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
	gannon	0.04	0.22	3.17	0.00	0.01	0.01	456.28
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	soil boring machine (tiebacks)	0.03	0.15	2.17	0.00	0.01	0.01	306.99
	Grout Pump	0.01	0.06	0.04	0.00	0.00	0.00	8.19
	Shotcrete truck	0.36	2.19	2.37	0.01	0.08	0.07	1069.06
	Crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	18 wheeler	0.09	0.55	0.59	0.00	0.02	0.02	267.27
	Excavator	0.02	0.53	0.79	0.00	0.00	0.00	113.75
Incised Finish	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	steel drum roller B26	0.02	0.53	0.79	0.00	0.00	0.00	113.68
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Riding float	0.01	0.07	1.05	0.00	0.00	0.00	149.58
EL/BRDG Prep	Saw	0.00	0.12	0.17	0.00	0.00	0.00	24.52
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
EL/BRDG Foundations	LB 28 Heavy Duty Soil drill	0.03	0.15	2.17	0.00	0.01	0.01	306.99
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27

Onsite Equipment Emissions Proposed Project

	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	Wheel loader	0.02	0.11	1.62	0.00	0.00	0.00	233.11
EL/BRDG Column	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27
	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
EL/BRDG Spans	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27
	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
	Manlift	0.02	0.55	0.82	0.00	0.00	0.00	118.50
Top (TB)(AG)	Saw	0.01	0.23	0.35	0.00	0.00	0.00	49.04
	Super10	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
	gannon	0.04	0.22	3.17	0.00	0.01	0.01	456.28
	steel drum roller B26	0.02	0.53	0.79	0.00	0.00	0.00	113.68
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Riding float	0.01	0.07	1.05	0.00	0.00	0.00	149.58
	Front End Loader	0.02	0.11	1.62	0.00	0.00	0.00	233.11
Dust Control	Water truck	1.34	8.21	8.88	0.04	0.29	0.26	4008.99

Total Equipment Emissions per Activity

Activities	Daily Emissions/activity						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO _{2e}
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.83	5.16	7.12	0.03	0.18	0.16	2663.02
Cant FM/PR/ST	0.09	0.93	2.36	0.00	0.02	0.02	460.32
Cant Finish	0.05	1.10	1.55	0.00	0.01	0.01	223.47
Incised Prep/Placement	0.86	6.17	14.00	0.03	0.18	0.17	3494.16
Incised Finish	0.10	1.35	5.06	0.01	0.02	0.02	727.17
EL/BRDG Prep	0.29	1.87	3.57	0.01	0.06	0.06	1059.42
EL/BRDG Foundations	0.39	3.07	7.86	0.02	0.08	0.08	1674.20
EL/BRDG Column	0.13	1.51	3.10	0.01	0.03	0.03	568.75
EL/BRDG Spans	0.14	2.04	3.91	0.01	0.03	0.03	683.80
Top (TB)(AG)	1.50	10.07	17.94	0.05	0.32	0.29	5340.82
Dust Control	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
Offsite hauling	0	0	0	0	0	0	0

Vehicle Emissions Proposed Project

Vehicle Emission Factors (EMFAC2021)

	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
Worker Commute	0.011	0.049	0.786	0.003	0.018	0.006	285.660
Haul Trucks, Ready Mix Trucks	0.013	1.685	0.067	0.015	0.139	0.111	1627.816
Crew Trucks	0.016	0.077	0.979	0.003	0.019	0.007	337.349

Note:

Vehicle emission factors were obtained from EMFAC2021:

Region: South Coast AQMD, 2025

Speed and model year: aggregated

Worker commute vehicles include auto and light duty trucks.

Haul trucks and ready mix trucks include heavy heavy-duty diesel trucks.

Crew truck vehicles include light duty trucks

Vehicle Emissions

Projects	Vehicle Types	Round Trips/day	miles/round trip	Daily Emissions						
				ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
				lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	Worker Commute	6	60	0.009	0.039	0.624	0.002	0.014	0.005	226.715
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
Cant FM/PR/ST	Worker Commute	5	60	0.007	0.032	0.520	0.002	0.012	0.004	188.929
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
Cant Finish	Worker Commute	3	60	0.004	0.019	0.312	0.001	0.007	0.002	113.357
	Crew Truck	1	10	0.000	0.002	0.022	0.000	0.000	0.000	7.437
Incised Prep/Placement	Worker Commute	12	60	0.017	0.078	1.247	0.004	0.028	0.010	453.429
	Crew Truck	3	10	0.001	0.005	0.065	0.000	0.001	0.000	22.311
Incised Finish	Worker Commute	10	60	0.014	0.065	1.040	0.004	0.024	0.008	377.858
	Crew Truck	3	10	0.001	0.005	0.065	0.000	0.001	0.000	22.311
EL/BRDG Prep	Worker Commute	5	60	0.007	0.032	0.520	0.002	0.012	0.004	188.929
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Foundations	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Column	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Spans	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
Top (TRVAG)	Worker Commute	16	60	0.023	0.104	1.663	0.006	0.038	0.013	604.572

Vehicle Emissions		Proposed Project								
Top (TB)(AG)										
	Crew Truck	4	10	0.001	0.007	0.086	0.000	0.002	0.001	29.749
Dust Control	Worker Commute	3	60	0.004	0.019	0.312	0.001	0.007	0.002	113.357
	Crew Truck	1	10	0.000	0.002	0.022	0.000	0.000	0.000	7.437
Offsite Hauling	Haul Truck	16	20	0.009	1.188	0.047	0.010	0.098	0.079	1148.371
	Concrete Truck	25	20	0.014	1.857	0.074	0.016	0.153	0.123	1794.329

Vehicle Emissions							
Activity	Daily Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.01	0.04	0.67	0.00	0.02	0.01	241.59
Cant FM/PR/ST	0.01	0.04	0.56	0.00	0.01	0.00	203.80
Cant Finish	0.00	0.02	0.33	0.00	0.01	0.00	120.79
Incised Prep/Placement	0.02	0.08	1.31	0.00	0.03	0.01	475.74
Incised Finish	0.02	0.07	1.10	0.00	0.02	0.01	400.17
EL/BRDG Prep	0.01	0.04	0.56	0.00	0.01	0.00	203.80
EL/BRDG Foundations	0.01	0.06	0.87	0.00	0.02	0.01	317.16
EL/BRDG Column	0.01	0.06	0.87	0.00	0.02	0.01	317.16
EL/BRDG Spans	0.01	0.06	0.87	0.00	0.02	0.01	317.16
Top (TB)(AG)	0.02	0.11	1.75	0.01	0.04	0.01	634.32
Dust Control	0.00	0.02	0.33	0.00	0.01	0.00	120.79
Offsite Hauling	0.02	3.05	0.12	0.03	0.25	0.20	2942.70

VMT on Paved and Unpaved Roads

Onsite Equipment	Vehicle	Total VMT/day	Unpaved road%	Unpaved VMT/day	Paved VMT/day
Cant Prep	Worker Commute	360	0%	0	360
	Crew Truck	20	0%	0	20
Cant FM/PR/ST	Worker Commute	300	0%	0	300
	Crew Truck	20	0%	0	20
Cant Finish	Worker Commute	180	0%	0	180
	Crew Truck	10	0%	0	10
Incised Prep/Placement	Worker Commute	720	0%	0	720
	Crew Truck	30	0%	0	30
Incised Finish	Worker Commute	600	0%	0	600
	Crew Truck	30	0%	0	30
EL/BRDG Prep	Worker Commute	300	0%	0	300
	Crew Truck	20	0%	0	20

Vehicle Emissions	Proposed Project				
EL/BRDG Foundations	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
EL/BRDG Column	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
EL/BRDG Spans	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
Top (TB)(AG)	Worker Commute	960	0%	0	960
	Crew Truck	40	0%	0	40
Dust Control	Worker Commute	180	0%	0	180
	Crew Truck	10	0%	0	10
Offsite Hauling	Haul Truck	320	0%	0	320
	Concrete Truck	500	0%	0	500

Fugitive Dust Emissions

Proposed Project

A) Grading

Fugitive dust emissions from grading

Activity	Equipment	Number of Grading Equipment	# acres/equipment	Acreage Graded/Day	Grader/Scalper VMT	Emission Factors		Daily Emissions	
						PM10	PM2.5	PM10	PM2.5
				acres	miles/day	lb/VMT	lb/VMT	lb/day	lb/day
Cant Prep	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Cant FM/PR/ST	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Cant Finish	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Incised Prep/Placement	Grader	1	0.5	0.5	0.34	0.60	0.065	0.21	0.02
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Incised Finish	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Prep	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Foundations	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Column	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Spans	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Top (TB)(AG)	Grader	1	0.5	0.5	0.34	0.60	0.065	0.21	0.02
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Dust Control	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Offsite hauling	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00

Grading Dust Emissions Summary

	Daily Emissions	
	PM10	PM2.5
	lb/day	lb/day
Cant Prep	0.00000	0.00000
Cant FM/PR/ST	0.00000	0.00000
Cant Finish	0.00000	0.00000
Incised Prep/Placement	0.20680	0.02233
Incised Finish	0.00000	0.00000
EL/BRDG Prep	0.00000	0.00000
EL/BRDG Foundations	0.00000	0.00000
EL/BRDG Column	0.00000	0.00000
EL/BRDG Spans	0.00000	0.00000
Top (TB)(AG)	0.20680	0.02233

Note:

PM emissions were calculated using the following equation and parameters:

Emission factor (lb/VMT) = $k \times 0.051 \times (S)^{2.0}$ for PM10 and $k \times 0.040 \times (S)^{2.5}$ for PM2.5

k = Scaling Constant (0.60 for PM10 and 0.031 for PM2.5)

S = Mean Vehicle Speed, CalEEMod default = 7.1 miles/hour

VMT = $As / Wb \times 43,560$ (sqft/acre) / 5280 (ft/mile)

VMT: vehicle miles traveled

As: the acreage of the grading site (0.5 acre/day for graders per CalEEMod default)

Wb: blade width of the grader. CalEEMod default Wb = 12 ft.

Fugitive Dust Emissions

Proposed Project

Control efficiency of watering the exposed area twice a day

61% (CalEEMod defaults)

B). Earth Material Loading/Handling

Dust from soil loading

Activities	Material Amount	Material Amount	Emission Factors		Daily Emissions	
			PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
	cy/day	ton/day	lb/ton	lb/ton	lb/day	lb/day
Offsite hauling	192	242.7	0.00001	0.000002	0.00	0.000

Note:

Material amount estimated based on 12 cy/load

Fugitive dust from materials unloading from trains and/or trucks are calculated using the following equations and parameters:

Emission factor (lb/ton) = $(k)(0.0032)[(U/5)^{1.3}]/[(M/2)^{1.4}]$

k = Particle Size Constant (0.35 for PM10 and 0.053 for PM2.5)

U = average wind speed

1.118 mph, 0.5 m/s for Los Angeles County (CalEEMod default, Table G-1 of CalEEMod 2022.1 User Guide Appendix G)

M = moisture content = 12% (CalEEMod Default)

Material density (CalEEMod default)

1.264 ton/CY

C) Vehicle Fugitive Dust Emissions on Paved Roads

Emission factor (g/VMT) = $k \times (sL)^{0.91} \times W^{1.02}$

		PM10	PM2.5
k		1.0	0.25
sL	g/m2	0.10	0.10
W	tons	2.4	2.4
EF	(g/VMT)	0.300	0.075

Equation from: AP-42 13.2.1

sL and W (silt loading and vehicle weight) are CalEEMod default values

Activity	Maximum Daily Emissions		
	Trip miles	PM10	PM2.5
	VMT/day	lb/day	lb/day
Cant Prep	380	0.25	0.06
Cant FM/PR/ST	320	0.21	0.05
Cant Finish	190	0.13	0.03
Incised Prep/Placement	750	0.50	0.12
Incised Finish	630	0.42	0.10
EL/BRDG Prep	320	0.21	0.05
EL/BRDG Foundations	500	0.33	0.08
EL/BRDG Column	500	0.33	0.08
EL/BRDG Spans	500	0.33	0.08
Top (TB)(AG)	1,000	0.66	0.17
Dust Control	190	0.13	0.03
Offsite hauling	820	0.54	0.14

D) Vehicle Fugitive Dust Emissions on Unpaved Roads

Uncontrolled Emission Factors and Emissions

	Emission Factors (lb/VMT) (daily)	
	PM10	PM2.5
Unpaved Road (uncontrolled)	0.99	0.10
Unpaved Road (with watering unpaved road twice a day)	0.45	0.04

Emission factor (lb/VMT) = $(k)[(s/12)^{0.9}][(W/3)^{0.45}]$ (EPA AP-42, 13.2.2, for industrial sites)

k = constant (lb/VMT) = 1.5 lb/VMT for PM10 and 0.15 lb/VMT for PM2.5

s = Silt Content (8.5%, construction sites, AP-42, Table 13.2.2.1)

Fugitive Dust Emissions

Proposed Project

W = avg. vehicle weight (tons) = 2.4 ton

Control efficiency of watering the unpaved road twice a day

55% (data from CalEEMod 2022.1 defaults)

Emissions from Unpaved Roads

Activity	Maximum Daily Emissions		
	Total Trip miles	PM10	PM2.5
	VMT/day	lb/day	lb/day
Cant Prep	0	0.00	0.00
Cant FM/PR/ST	0	0.00	0.00
Cant Finish	0	0.00	0.00
Incised Prep/Placement	0	0.00	0.00
Incised Finish	0	0.00	0.00
EL/BRDG Prep	0	0.00	0.00
EL/BRDG Foundations	0	0.00	0.00
EL/BRDG Column	0	0.00	0.00
EL/BRDG Spans	0	0.00	0.00
Top (TB)(AG)	0	0.00	0.00
Dust Control	0	0.00	0.00
Offsite hauling	0	0.00	0.00

Summary of Fugitive Dust Emissions

Activity	Maximum Daily Emissions		Onsite Daily Emissions	
	PM10	PM2.5	PM10	PM2.5
	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.25	0.06	0.000	0.000
Cant FM/PR/ST	0.21	0.05	0.000	0.000
Cant Finish	0.13	0.03	0.000	0.000
Incised Prep/Placement	0.70	0.15	0.207	0.022
Incised Finish	0.42	0.10	0.000	0.000
EL/BRDG Prep	0.21	0.05	0.000	0.000
EL/BRDG Foundations	0.33	0.08	0.000	0.000
EL/BRDG Column	0.33	0.08	0.000	0.000
EL/BRDG Spans	0.33	0.08	0.000	0.000
Top (TB)(AG)	0.87	0.19	0.207	0.022
Dust Control	0.13	0.03	0.000	0.000
Offsite hauling	0.55	0.14	0.000	0.000

2025 Construction Emissions Summary

2025 Construction Emissions Summary							Proposed Project																		
April	May	June	July	Aug	Sept	Oct	Location	Activity	2025 working months	2025 working days	Daily Emissions/activity							Total Emissions							
Elevated/Bridge											ROG	NOx	CO	SOx	PM ₁₀	CO ₂ e		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	
02A-100 to 02A-130											lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year	
	EL/BRDG Prep		EL/BRDG Foundations		EL/BRDG Foundations		02A-100 to 02A-130	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.276	0.017	0.105	0.227	0.001	0.016	0.006	63.030	
							02A-100 to 02A-130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233	
							02A-100 to 02A-130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233	
							02A-100 to 02A-130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233	
							02A-100 to 02A-130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233	
							02A-100 to 02A-130	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044	
							02A-100 to 02A-130	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044	
							02A-100 to 02A-130	EL/BRDG Column	5	110	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.008	0.086	0.219	0.001	0.021	0.006	44.204	
							02A-100 to 02A-130	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933	
							02A-100 to 02A-130	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933	
sub total								Sub Total			2.919	26.925	69.334	0.157	4.676	1.598	15775.194	0.186	1.722	4.443	0.010	0.297	0.102	914.255	
01A-140							01A-140	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.276	0.017	0.105	0.227	0.001	0.016	0.006	63.030	
							01A-140	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233	
							01A-140	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233	
							01A-140	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044	
							01A-140	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044	
							01A-140	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933	
							01A-140	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933	
							01A-140	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933	
sub total								Sub Total			2.133	21.207	52.665	0.119	3.809	1.264	11907.518	0.137	1.379	3.430	0.008	0.248	0.082	700.359	
INGESD							01A-110	Inciwed Prep/Placement	2	44	0.881	6.257	15.315	0.038	0.914	0.325	3969.903	0.019	0.138	0.337	0.001	0.020	0.007	79.233	
Inciwed Finish							01A-110	Inciwed Finish	2	44	0.113	1.423	6.161	0.011	0.461	0.131	1127.336	0.004	0.047	0.203	0.000	0.015	0.004	13.790	
sub total								Sub Total			0.994	7.680	21.477	0.049	1.375	0.457	5097.239	0.022	0.169	0.472	0.001	0.030	0.010	101.733	
01A-130/140							01A-130/140	Inciwed Prep/Placement	3	66	0.881	6.257	15.315	0.038	0.914	0.325	3969.903	0.019	0.206	0.505	0.001	0.030	0.011	118.849	
Inciwed Finish							01A-130/140	Inciwed Finish	3	66	0.113	1.423	6.161	0.011	0.461	0.131	1127.336	0.004	0.047	0.203	0.000	0.015	0.004	13.790	
sub total								Sub Total			0.994	7.680	21.477	0.049	1.375	0.457	5097.239	0.033	0.253	0.709	0.002	0.045	0.015	132.599	
01A-170							01A-170	Inciwed Prep/Placement	1	22	0.881	6.257	15.315	0.038	0.914	0.325	3969.903	0.010	0.069	0.168	0.000	0.010	0.004	39.616	
Inciwed Finish							01A-170	Inciwed Finish	1	22	0.113	1.423	6.161	0.011	0.461	0.131	1127.336	0.001	0.016	0.068	0.000	0.005	0.001	11.250	
sub total								Sub Total			0.994	7.680	21.477	0.049	1.375	0.457	5097.239	0.011	0.084	0.236	0.001	0.015	0.005	50.866	
General							General	Dust Control	7	154	1.343	8.231	9.209	0.039	0.421	0.299	4128.780	0.103	0.634	0.709	0.003	0.032	0.023	388.483	
Offsite Hauling							General	Offsite Hauling	7	154	0.023	3.045	0.121	0.027	0.798	0.338	2942.700	0.002	0.235	0.009	0.002	0.061	0.026	205.561	
sub total								Sub Total			1.366	11.277	9.329	0.066	1.218	0.636	7072.481	0.105	0.868	0.718	0.005	0.094	0.049	494.044	

Total Construction Emissions (Onsite and Offsite)							Annual Emissions						
Daily overlapping Emissions (July)							Annual Emissions						
ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year
7.432	67.089	152.804	0.391	11.079	3.955	39852.431	0.495	4.076	10.009	0.036	0.739	0.393	2413.857

Daily Emissions/activity (onsite only)							Total Emissions						
ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year
0.293	1.873	3.172	0.010	0.062	0.008	1059.423	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797
2.017	20.674	44.229	0.089	0.425	0.399	8849.270							

0.863	6.174	14.003	0.033	0.181	0.169	3494.162			</
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2026 Construction Emissions Summary

Proposed Project

[illegible]

ROG	Daily Emissions/activity (onsite only)								PM ₁₀	CO ₂
	1b/day	1b/day	3.57/day	0.01/day	1b/day	1b/day	1b/day	1b/day		
0.293	1.873	3.572	0.010	0.062	0.058	0.058	1059.43			
0.388	1.088	2.862	0.016	0.083	0.083	0.083	1674.19			
0.128	3.068	7.862	0.016	0.083	0.078	0.078	1674.19			
0.277	1.507	3.103	0.006	0.028	0.026	0.026	568.74			
0.127	1.507	3.103	0.006	0.028	0.026	0.026	568.74			
0.142	2.036	3.906	0.007	0.029	0.027	0.027	683.77			
0.293	1.873	3.572	0.007	0.029	0.027	0.027	683.77			
0.142	2.036	3.906	0.007	0.029	0.027	0.027	683.77			
0.960	8.484	18.442	0.040	0.201	0.201	0.188	3964.16			
0.293	1.873	3.572	0.010	0.062	0.058	0.058	1059.43			
0.388	1.088	2.862	0.016	0.083	0.083	0.083	1674.19			
0.128	3.068	7.862	0.016	0.083	0.078	0.078	1674.19			
0.277	1.507	3.103	0.006	0.028	0.026	0.026	568.74			
0.127	1.507	3.103	0.006	0.028	0.026	0.026	568.74			
0.142	2.036	3.906	0.007	0.029	0.027	0.027	683.77			
0.960	8.484	18.442	0.040	0.201	0.201	0.188	3964.16			
0.293	1.873	3.572	0.010	0.062	0.058	0.058	1059.43			
0.388	1.088	2.862	0.016	0.083	0.083	0.083	1674.19			
0.128	3.068	7.862	0.016	0.083	0.078	0.078	1674.19			
0.277	1.507	3.103	0.006	0.028	0.026	0.026	568.74			
0.127	1.507	3.103	0.006	0.028	0.026	0.026	568.74			
0.142	2.036	3.906	0.007	0.029	0.027	0.027	683.77			
0.960	8.484	18.442	0.040	0.201	0.201	0.188	3964.16			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
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0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
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0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
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0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
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0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
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0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.863	7.124	14.003	0.033	0.181	0.189	0.189	3494.162			
0.960	7									

[illegible]

2027 Construction Emissions Summary

April	May	June	July	Aug	Sept	Oct	Location	Activity	2027 working months	2027 working days	Daily Emissions/activity						Total Emissions						
											ROG	NOx	PM10	PM2.5	PM10	COe	ROG	NOx	CO	PM10	PM2.5	COe	
											ton/day	ton/day	ton/day	ton/day	ton/day	ton/day	ton/day	ton/day	ton/day	ton/day	ton/day	ton/day	
							EL/BIROD Prep	EL/BIROD Prep	3	66	0.00	0.00	0.00	0.00	0.00	0.00	249.247	0.00	0.00	0.00	0.00	0.00	0.00
							EL/BIROD Foundations	EL/BIROD Foundations	3	66	0.00	0.00	0.00	0.00	0.00	0.00	249.247	0.00	0.00	0.00	0.00	0.00	0.00
							EL/BIROD Foundations	EL/BIROD Foundations	3	66	0.00	0.00	0.00	0.00	0.00	0.00	249.247	0.00	0.00	0.00	0.00	0.00	0.00
							EL/BIROD Columns	EL/BIROD Columns	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Columns	EL/BIROD Columns	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
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							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
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							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
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							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
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							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.02525
							EL/BIROD Spans	EL/BIROD Spans	4	88	0.139	1.563	1.563	1.563	1.563	1.563	885.854	0.011126	0.068728	1.72026	0.000611	0.014181	0.025

Total Construction Emissions (Onsite and Off-site)							Total Construction Emissions (Onsite and Off-site)					
Daily overlapping Emissions (July)							Annual Emissions					
RUG lb/day	NOx lb/day	CO lb/day	PM ₁₀ lb/day	CO-e lb/day	PM _{2.5} lb/day	Pb+e lb/day	RUG ton/year	NOx ton/year	CO ton/year	PM ₁₀ ton/year	PM _{2.5} ton/year	CO-e ton/year
9.728	87.144	191.130	0.491	13.572	4.915	49988.387	0.513	4.429	8.992	0.025	0.669	2331.913

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Construction Emissions Summary: Onsite only (one construction segment)									
Maximum Emissions (Equivalent CO ₂ in lbs./hr.)									
	RDG	NDG	CO ₂	CO ₂	PM ₁₀	PM ₁₀			
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Onsite 100	0.97	7.17	11.03	0.03	0.21	0.19			
Onsite 200	0.97	7.17	11.03	0.03	0.21	0.19			
Onsite 300	0.97	7.17	11.03	0.03	0.21	0.19			
Onsite 400	0.97	7.17	11.03	0.03	0.21	0.19			
Onsite 500	1.75	17.73	27.22	0.06	0.37	0.35			
Onsite 600	1.75	17.73	27.22	0.06	0.37	0.35			
Onsite 700	1.75	17.73	27.22	0.06	0.37	0.35			
Onsite 800	1.75	17.73	27.22	0.06	0.37	0.35			
Onsite 900	0.97	7.17	11.03	0.03	0.21	0.19			
Onsite 1000	0.97	7.17	11.03	0.03	0.21	0.19			
Onsite 1100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 1900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 2900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 3900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 4900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 5900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 6900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 7900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 8900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 9900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 10900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 11900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 12900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13500	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13600	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13700	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13800	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 13900	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 14000	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 14100	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 14200	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 14300	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 14400	1.50	10.07	15.04	0.05	0.32	0.29			
Onsite 14500	1.50	10.07	15.04						

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for other

Calendar Year Vehicle Category Year			Speed	Pop	Population	Total RVs	CVMT	EMVT	Trips	PM2.5_R10	PM10_R10	NO2_STK	PM2.5_R10	PM2.5_R10	PM2.5_STK	PM2.5_PAT10	PM10_PAT10	PM10_R10	PM10_STK
South Coast AQMD	2025	HH01	Aggregate	Gasoline	56,121,995	400,857,878	10,938,857		0	134,87756	6,108,9387	0	0.0326845	0.03185056	0.00013308	0.00050001	0.03147992	0.001506374	0.001229385
South Coast AQMD	2025	HH02	Aggregate	Gasoline	13,933,104	105,801,917	0		0	18,605178	1,484,6815	0	0.0008376	0.0008376	0.00000000	0.00000000	0.0008376	0.00000000	0.00000000
South Coast AQMD	2025	HH03	Aggregate	Gasoline	786,431	6,980,474	0		0	786,431	7,033,056	66,61151	2,80163412	0.02382895	0.03088791	0	0.0008376	0.00000000	0.02635907
South Coast AQMD	2025	HH04	Aggregate	Gasoline	1,006,588	10,980,474	69,804,478	0		0	1,006,588	10,980,478	0	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Aggregate	Gasoline	538,808,714	2,512,784,171	2,512,784,171	0		0	538,808,714	2,512,784,178	0	0.23205624	0.00128904	0.000189157	0.00000000	0.002000906	0.001401391
South Coast AQMD	2025	IDA	Aggregate	Gasoline	3,906,478	41,909,478	41,909,478	0		0	3,906,478	41,909,478	0	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Aggregate	Electricity	3,923,9245	150,618,938	0		0	15,601,858	99,260,579	0	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0		6,976,381	9,915,318	0	0.11127203	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
South Coast AQMD	2025	IDA	Plug-in Hybrid	164,568,557	70,743,164	366,360,196	984,218	0											

[illegible]

		ROG	NOx	CO	SO2	PM10	PM2.5	CO2e
		g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
worker commute (LDA, LDT1, LDT2)		0.0108	0.0490	0.7859	0.0028	0.0179	0.0063	285.6605
Haul Truck (diesel)		0.0129	1.6847	0.0667	0.0147	0.1390	0.1113	1627.8156
Pickups		0.0156	0.0765	0.9785	0.0033	0.0193	0.0068	337.3491

1. CO₂e were calculated using the following global warming potential (GWP, 100-year GWP from CalEEMod 2022.1 User Guide, Appendix G, Table G-39)

Attachment 2
Option 1
Construction Emissions Calculations

Construction Emissions Summary: Option 1

Daily Emissions Summary - Onsite and Offsite (Project-wide)

Year	Maximum Daily Emissions					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2025	7.32	69.15	153.78	0.39	11.51	4.08
2026	8.08	71.03	161.83	0.42	11.20	4.11
2027	6.75	50.75	108.76	0.31	7.48	2.83
SCAQMD CEQA Thresholds	75	100	550	150	150	55
Exceeding Thresholds?	N	N	N	N	N	N

SCAQMD CEQA thresholds from <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>

Construction Emissions Summary: Onsite only, within one construction segment)

Year	Maximum Daily Emissions Onsite					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2025	4.37	43.40	90.68	0.19	0.92	0.86
2026	4.72	40.21	88.17	0.19	1.00	0.94
2027	5.18	36.83	75.77	0.19	1.09	1.02
SCAQMD LST Thresholds for Central Los Angeles @ 25m	NA	74	680	NA	5	3
Exceed LST Thresholds	NA	N	N	NA	N	N

SCAQMD LST Thresholds from <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>

Annual Emissions Summary

Year	Annual Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO _{2e}
	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year
2025	0.48	4.50	9.82	0.03	0.74	0.26	2,364.6
2026	0.46	4.06	8.81	0.02	0.62	0.23	2,195.1
2027	0.39	2.95	5.76	0.02	0.41	0.16	1,683.2

Construction Emissions by Activity - Option 1

Emissions from Construction of Each Individual Activity

Activity	Sources	Daily Emissions (onsite and offsite, including dust)							Daily Emissions (Onsite only)						
		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
		lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	equipment	0.829	5.157	7.122	0.025	0.177	0.164	2663.017	0.829	5.157	7.122	0.025	0.177	0.164	2663.017
	vehicles	0.009	0.042	0.667	0.002	0.015	0.005	241.589	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.252	0.063	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.838	5.199	7.789	0.028	0.444	0.232	2904.606	0.829	5.157	7.122	0.025	0.177	0.164	2663.017
Cant FM/PR/ST	equipment	0.095	0.932	2.361	0.005	0.020	0.019	460.323	0.095	0.932	2.361	0.005	0.020	0.019	460.323
	vehicles	0.008	0.036	0.563	0.002	0.013	0.004	203.803	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.212	0.053	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.102	0.968	2.924	0.007	0.245	0.076	664.126	0.095	0.932	2.361	0.005	0.020	0.019	460.323
Cant Finish	equipment	0.047	1.103	1.546	0.002	0.008	0.008	223.474	0.047	1.103	1.546	0.002	0.008	0.008	223.474
	vehicles	0.005	0.021	0.333	0.001	0.008	0.003	120.794	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.126	0.031	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.052	1.124	1.879	0.004	0.142	0.042	344.269	0.047	1.103	1.546	0.002	0.008	0.008	223.474
Incised Prep/Placement	equipment	0.863	6.174	14.003	0.033	0.181	0.169	3494.162	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
	vehicles	0.018	0.083	1.312	0.005	0.030	0.010	475.741	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.704	0.147	NA	NA	NA	NA	NA	0.207	0.022	NA
	Sub Total	0.881	6.257	15.315	0.038	0.914	0.325	3969.903	0.863	6.174	14.003	0.033	0.388	0.191	3494.162
Incised Finish	equipment	0.097	1.353	5.057	0.007	0.019	0.018	727.167	0.097	1.353	5.057	0.007	0.019	0.018	727.167
	vehicles	0.015	0.070	1.104	0.004	0.025	0.009	400.169	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.417	0.104	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.113	1.423	6.161	0.011	0.461	0.131	1127.336	0.097	1.353	5.057	0.007	0.019	0.018	727.167
EL/BRDG Prep	equipment	0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058	1059.423
	vehicles	0.008	0.036	0.563	0.002	0.013	0.004	203.803	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.212	0.053	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.293	1.873	3.572	0.010	0.062	0.058	1059.423
EL/BRDG Foundations	equipment	0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
EL/BRDG Column	equipment	0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.127	1.507	3.103	0.006	0.028	0.026	568.754
EL/BRDG Spans	equipment	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.142	2.036	3.906	0.007	0.029	0.027	683.797
Top (TB)(AG)	equipment	1.495	10.068	17.937	0.051	0.317	0.294	5340.819	1.495	10.068	17.937	0.051	0.317	0.294	5340.819
	vehicles	0.024	0.111	1.750	0.006	0.040	0.014	634.321	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.869	0.188	NA	NA	NA	NA	NA	0.207	0.022	NA
	Sub Total	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	1.495	10.068	17.937	0.051	0.524	0.317	5340.819
Dust Control	equipment	1.338	8.210	8.875	0.038	0.287	0.265	4008.986	1.338	8.210	8.875	0.038	0.287	0.265	4008.986
	vehicles	0.005	0.021	0.333	0.001	0.008	0.003	120.794	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.126	0.031	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	1.343	8.231	9.209	0.039	0.421	0.299	4129.780	1.338	8.210	8.875	0.038	0.287	0.265	4008.986
Offsite hauling	equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	vehicles	0.023	3.045	0.121	0.027	0.251	0.201	2942.700	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.546	0.136	NA	NA	NA	NA	NA	0.003	0.000	NA

Construction Emissions by Activity - Option 1

	Sub Total	0.023	3.045	0.121	0.027	0.798	0.338	2942.700	0.000	0.000	0.000	0.000	0.003	0.000	0.000
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Emissions from Each Construction Activity

Activity	Maximum Daily Emissions							Onsite Daily Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.84	5.20	7.79	0.03	0.44	0.23	2904.61	0.83	5.16	7.12	0.03	0.18	0.16	2663.02
Cant FM/PR/ST	0.10	0.97	2.92	0.01	0.24	0.08	664.13	0.09	0.93	2.36	0.00	0.02	0.02	460.32
Cant Finish	0.05	1.12	1.88	0.00	0.14	0.04	344.27	0.05	1.10	1.55	0.00	0.01	0.01	223.47
Incised Prep/Placement	0.88	6.26	15.32	0.04	0.91	0.33	3969.90	0.86	6.17	14.00	0.03	0.39	0.19	3494.16
Incised Finish	0.11	1.42	6.16	0.01	0.46	0.13	1127.34	0.10	1.35	5.06	0.01	0.02	0.02	727.17
EL/BRDG Prep	0.30	1.91	4.13	0.01	0.29	0.12	1263.23	0.29	1.87	3.57	0.01	0.06	0.06	1059.42
EL/BRDG Foundations	0.40	3.12	8.74	0.02	0.43	0.17	1991.36	0.39	3.07	7.86	0.02	0.08	0.08	1674.20
EL/BRDG Column	0.14	1.56	3.98	0.01	0.38	0.12	885.91	0.13	1.51	3.10	0.01	0.03	0.03	568.75
EL/BRDG Spans	0.15	2.09	4.78	0.01	0.38	0.12	1000.96	0.14	2.04	3.91	0.01	0.03	0.03	683.80
Top (TB)(AG)	1.52	10.18	19.69	0.06	1.23	0.50	5975.14	1.50	10.07	17.94	0.05	0.52	0.32	5340.82
Dust Control	1.34	8.23	9.21	0.04	0.42	0.30	4129.78	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
Offsite hauling	0.02	3.05	0.12	0.03	0.80	0.34	2942.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Onsite Equipment Emissions Option 1

Onsite Equipment Information and Emission Factors

	Equipment	Equipment Number			Emission factor Year	CalEEMod Default Load Factor	CalEEMod Emission Factors (100% load)									
			HP	Hour/day			ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
			per equipment	per equipment			g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
Cant Prep	Saw	1	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super 10	3	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
Cant FM/PR/ST	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
Cant Finish	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Manlift	1	46	6.4	2025	0.31	0.090	2.750	4.100	0.005	0.010	0.010	586.900	0.024	0.005	588.990
Incised Prep/Placement	Saw	2	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	gannon	1	148	6.4	2025	0.41	0.050	0.260	3.700	0.005	0.010	0.010	531.194	0.022	0.004	532.936
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	soil boring machine (tiebacks)	1	83	6.4	2025	0.50	0.050	0.260	3.700	0.005	0.010	0.010	522.567	0.021	0.004	524.284
	Grout Pump	1	11	0.8	2025	0.74	0.474	4.334	3.001	0.008	0.181	0.166	568.244	0.023	0.005	570.309
	Shotcrete truck	1	376	6.4	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	18 wheeler	1	376	1.6	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Excavator	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	587.238	0.024	0.005	589.328
Incised Finish	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	steel drum roller B26	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	586.902	0.024	0.005	588.992
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
	Riding float	1	89	4.0	2025	0.36	0.050	0.260	3.700	0.005	0.010	0.010	527.686	0.021	0.004	529.403
EL/BRDG Prep	Saw	1	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
EL/BRDG Foundations	LB 28 Heavy Duty Soil drill	1	83	6.4	2025	0.50	0.050	0.260	3.700	0.005	0.010	0.010	522.567	0.021	0.004	524.284
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Wheel loader	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
EL/BRDG Column	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
EL/BRDG Spans	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Manlift	1	46	6.4	2025	0.31	0.090	2.750	4.100	0.005	0.010	0.010	586.900	0.024	0.005	588.990
Top (TB)(AG)	Saw	2	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Super10	5	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	gannon	1	148	6.4	2025	0.41	0.050	0.260	3.700	0.005	0.010	0.010	531.194	0.022	0.004	532.936
	steel drum roller B26	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	586.902	0.024	0.005	588.992
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471

Onsite Equipment Emissions Option 1

Dust Control	Riding float	1	89	4.0	2025	0.36	0.050	0.260	3.700	0.005	0.010	0.010	527.686	0.021	0.004	529.403
	Front End Loader	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Water truck	3	376	8.0	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304

Note

1. CO2e were calculated using the following global warming potential (GWP, 100-year GWP from CalEEMod 2022.1 User Guide, Appendix G, Table G-39.)
CO2 1
CH4 25
N2O 298
2. Load factor and emission factors are from CalEEMod 2022.1 User Guide, Appendix G, Table G-12
3. Offsite equipment Efs for CO, Nox, ROG, PM10 and PM2.5 are Tier 4 emission factors per CalEEMod 2022.1 User's Guide Appendix G: Default Data Tables, Table G-13. Other emission factors are default emission factors per calendar year from CalEEMod 2022.1 User's Guide Appendix G: Default Data Tables, Table G-11.

Onsite Equipment Emissions

Activity	Equipment	Daily Emissions						
		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
		lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	Saw	0.00	0.12	0.17	0.00	0.00	0.00	24.52
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super 10	0.80	4.93	5.33	0.02	0.17	0.16	2405.39
Cant FM/PR/ST	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
	Generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
Cant Finish	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	Generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Manlift	0.02	0.55	0.82	0.00	0.00	0.00	118.50
Incised Prep/Placement	Saw	0.01	0.23	0.35	0.00	0.00	0.00	49.04
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
	gannon	0.04	0.22	3.17	0.00	0.01	0.01	456.28
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	soil boring machine (tiebacks)	0.03	0.15	2.17	0.00	0.01	0.01	306.99
	Grout Pump	0.01	0.06	0.04	0.00	0.00	0.00	8.19
	Shotcrete truck	0.36	2.19	2.37	0.01	0.08	0.07	1069.06
	Crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	18 wheeler	0.09	0.55	0.59	0.00	0.02	0.02	267.27
	Excavator	0.02	0.53	0.79	0.00	0.00	0.00	113.75
Incised Finish	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	steel drum roller B26	0.02	0.53	0.79	0.00	0.00	0.00	113.68
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Riding float	0.01	0.07	1.05	0.00	0.00	0.00	149.58
EL/BRDG Prep	Saw	0.00	0.12	0.17	0.00	0.00	0.00	24.52
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
EL/BRDG Foundations	LB 28 Heavy Duty Soil drill	0.03	0.15	2.17	0.00	0.01	0.01	306.99
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27
	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	Wheel loader	0.02	0.11	1.62	0.00	0.00	0.00	233.11
EL/BRDG Column	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27
	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27

Onsite Equipment Emissions Option 1

EL/BRDG Spans	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
	Manlift	0.02	0.55	0.82	0.00	0.00	0.00	118.50
Top (TB)(AG)	Saw	0.01	0.23	0.35	0.00	0.00	0.00	49.04
	Super10	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
	gannon	0.04	0.22	3.17	0.00	0.01	0.01	456.28
	steel drum roller B26	0.02	0.53	0.79	0.00	0.00	0.00	113.68
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Riding float	0.01	0.07	1.05	0.00	0.00	0.00	149.58
	Front End Loader	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Water truck	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
Dust Control								

Total Equipment Emissions per Activity

Activities	Daily Emissions/activity						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.83	5.16	7.12	0.03	0.18	0.16	2663.02
Cant FM/PR/ST	0.09	0.93	2.36	0.00	0.02	0.02	460.32
Cant Finish	0.05	1.10	1.55	0.00	0.01	0.01	223.47
Incised Prep/Placement	0.86	6.17	14.00	0.03	0.18	0.17	3494.16
Incised Finish	0.10	1.35	5.06	0.01	0.02	0.02	727.17
EL/BRDG Prep	0.29	1.87	3.57	0.01	0.06	0.06	1059.42
EL/BRDG Foundations	0.39	3.07	7.86	0.02	0.08	0.08	1674.20
EL/BRDG Column	0.13	1.51	3.10	0.01	0.03	0.03	568.75
EL/BRDG Spans	0.14	2.04	3.91	0.01	0.03	0.03	683.80
Top (TB)(AG)	1.50	10.07	17.94	0.05	0.32	0.29	5340.82
Dust Control	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
Offsite hauling	0	0	0	0	0	0	0

Vehicle Emissions **Option 1**

Vehicle Emission Factors (EMFAC2021)

	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
Worker Commute	0.011	0.049	0.786	0.003	0.018	0.006	285.660
Haul Trucks, Ready Mix Trucks	0.013	1.685	0.067	0.015	0.139	0.111	1627.816
Crew Trucks	0.016	0.077	0.979	0.003	0.019	0.007	337.349

Note:

Vehicle emission factors were obtained from EMFAC2021:

Region: South Coast AQMD, 2025

Speed and model year: aggregated

Worker commute vehicles include auto and light duty trucks.

Haul trucks and ready mix trucks include heavy heavy-duty diesel trucks.

Crew truck vehicles include light duty trucks

Vehicle Emissions

Projects	Vehicle Types	Round Trips/day	miles/round trip	Daily Emissions						
				ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
				lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	Worker Commute	6	60	0.009	0.039	0.624	0.002	0.014	0.005	226.715
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
Cant FM/PR/ST	Worker Commute	5	60	0.007	0.032	0.520	0.002	0.012	0.004	188.929
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
Cant Finish	Worker Commute	3	60	0.004	0.019	0.312	0.001	0.007	0.002	113.357
	Crew Truck	1	10	0.000	0.002	0.022	0.000	0.000	0.000	7.437
Incised Prep/Placement	Worker Commute	12	60	0.017	0.078	1.247	0.004	0.028	0.010	453.429
	Crew Truck	3	10	0.001	0.005	0.065	0.000	0.001	0.000	22.311
Incised Finish	Worker Commute	10	60	0.014	0.065	1.040	0.004	0.024	0.008	377.858
	Crew Truck	3	10	0.001	0.005	0.065	0.000	0.001	0.000	22.311
EL/BRDG Prep	Worker Commute	5	60	0.007	0.032	0.520	0.002	0.012	0.004	188.929
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Foundations	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Column	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Spans	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874

Vehicle Emissions Option 1

Top (TB)(AG)	Worker Commute	16	60	0.023	0.104	1.663	0.006	0.038	0.013	604.572
	Crew Truck	4	10	0.001	0.007	0.086	0.000	0.002	0.001	29.749
Dust Control	Worker Commute	3	60	0.004	0.019	0.312	0.001	0.007	0.002	113.357
	Crew Truck	1	10	0.000	0.002	0.022	0.000	0.000	0.000	7.437
Offsite Hauling	Haul Truck	16	20	0.009	1.188	0.047	0.010	0.098	0.079	1148.371
	Concrete Truck	25	20	0.014	1.857	0.074	0.016	0.153	0.123	1794.329

Vehicle Emissions

Activity	Daily Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.01	0.04	0.67	0.00	0.02	0.01	241.59
Cant FM/PR/ST	0.01	0.04	0.56	0.00	0.01	0.00	203.80
Cant Finish	0.00	0.02	0.33	0.00	0.01	0.00	120.79
Incised Prep/Placement	0.02	0.08	1.31	0.00	0.03	0.01	475.74
Incised Finish	0.02	0.07	1.10	0.00	0.02	0.01	400.17
EL/BRDG Prep	0.01	0.04	0.56	0.00	0.01	0.00	203.80
EL/BRDG Foundations	0.01	0.06	0.87	0.00	0.02	0.01	317.16
EL/BRDG Column	0.01	0.06	0.87	0.00	0.02	0.01	317.16
EL/BRDG Spans	0.01	0.06	0.87	0.00	0.02	0.01	317.16
Top (TB)(AG)	0.02	0.11	1.75	0.01	0.04	0.01	634.32
Dust Control	0.00	0.02	0.33	0.00	0.01	0.00	120.79
Offsite Hauling	0.02	3.05	0.12	0.03	0.25	0.20	2942.70

VMT on Paved and Unpaved Roads

Onsite Equipment	Vehicle	Total VMT/day	Unpaved road%	Unpaved VMT/day	Paved VMT/day
Cant Prep	Worker Commute	360	0%	0	360
	Crew Truck	20	0%	0	20
Cant FM/PR/ST	Worker Commute	300	0%	0	300
	Crew Truck	20	0%	0	20
Cant Finish	Worker Commute	180	0%	0	180
	Crew Truck	10	0%	0	10
Incised Prep/Placement	Worker Commute	720	0%	0	720
	Crew Truck	30	0%	0	30
Incised Finish	Worker Commute	600	0%	0	600
	Crew Truck	30	0%	0	30
EL/BRDG Prep	Worker Commute	300	0%	0	300
	Crew Truck	20	0%	0	20

Vehicle Emissions	Option 1				
EL/BRDG Foundations	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
EL/BRDG Column	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
EL/BRDG Spans	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
Top (TB)(AG)	Worker Commute	960	0%	0	960
	Crew Truck	40	0%	0	40
Dust Control	Worker Commute	180	0%	0	180
	Crew Truck	10	0%	0	10
Offsite Hauling	Haul Truck	320	0%	0	320
	Concrete Truck	500	0%	0	500

Fugitive Dust Emissions

Option 1

A) Grading

Fugitive dust emissions from grading

Activity	Equipment	Number of Grading Equipment	# acres/equipment	Acreage Graded/Day	Grader/Scraper VMT	Emission Factors		Daily Emissions	
						PM10	PM2.5	PM10	PM2.5
				acres	miles/day	lb/VMT	lb/VMT	lb/day	lb/day
Cant Prep	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Cant FM/PR/ST	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Cant Finish	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Incised Prep/Placement	Grader	1	0.5	0.5	0.34	0.60	0.065	0.21	0.02
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Incised Finish	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Prep	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Foundations	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Column	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Spans	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Top (TB)(AG)	Grader	1	0.5	0.5	0.34	0.60	0.065	0.21	0.02
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Dust Control	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Offsite hauling	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00

Grading Dust Emissions Summary

	Daily Emissions	
	PM10	PM2.5
	lb/day	lb/day
Cant Prep	0.00000	0.00000
Cant FM/PR/ST	0.00000	0.00000
Cant Finish	0.00000	0.00000
Incised Prep/Placement	0.20680	0.02233
Incised Finish	0.00000	0.00000
EL/BRDG Prep	0.00000	0.00000
EL/BRDG Foundations	0.00000	0.00000
EL/BRDG Column	0.00000	0.00000
EL/BRDG Spans	0.00000	0.00000
Top (TB)(AG)	0.20680	0.02233

Note:

PM emissions were calculated using the following equation and parameters:

Emission factor (lb/VMT) = $k \times 0.051 \times (S)^{2.0}$ for PM10 and $k \times 0.040 \times (S)^{2.5}$ for PM2.5

k = Scaling Constant (0.60 for PM10 and 0.031 for PM2.5)

S = Mean Vehicle Speed, CalEEMod default = 7.1 miles/hour

Fugitive Dust Emissions

Option 1

$VMT = As / Wb \times 43,560 \text{ (sqft/acre)} / 5280 \text{ (ft/mile)}$

VMT: vehicle miles traveled

As: the acreage of the grading site (0.5 acre per CalEEMod default)

Wb: blade width of the grader. CalEEMod default Wb = 12 ft.

Control efficiency of watering the exposed area twice a day 61% (CalEEMod defaults)

B). Earth Material Loading/Handling

Dust from soil loading

Activities	Material Amount	Material Amount	Emission Factors		Daily Emissions	
			PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
	cy/day	ton/day	lb/ton	lb/ton	lb/day	lb/day
Offsite hauling	192	242.7	0.00001	0.000002	0.00	0.000

Note:

Material amount estimated based on 12 cy/load

Fugitive dust from materials unloading from trains and/or trucks are calculated using the following equations and parameters:

Emission factor (lb/ton) = $(k)(0.0032)[(U/5)^{1.3}]/[(M/2)^{1.4}]$

k = Particle Size Constant (0.35 for PM10 and 0.053 for PM2.5)

U = average wind speed

1.118 mph, 0.5 m/s for Los Angeles County (CalEEMod default, Table G-1 of CalEEMod 2022.1 User Guide Appendix G)

M = moisture content = 12% (CalEEMod Default)

Material density (CalEEMod default)

1.264 ton/CY

C) Vehicle Fugitive Dust Emissions on Paved Roads

Emission factor (g/VMT) = $k \times (sL)^{0.91} \times W^{1.02}$

		PM10	PM2.5
k		1.0	0.25
sL	g/m2	0.10	0.10
W	tons	2.4	2.4
EF	(g/VMT)	0.300	0.075

Equation from: AP-42 13.2.1

sL and W (silt loading and vehicle weight) are CalEEMod default values

Activity	Maximum Daily Emissions		
	Trip miles	PM10	PM2.5
	VMT/day	lb/day	lb/day
Cant Prep	380	0.25	0.06
Cant FM/PR/ST	320	0.21	0.05
Cant Finish	190	0.13	0.03
Incised Prep/Placement	750	0.50	0.12
Incised Finish	630	0.42	0.10
EL/BRDG Prep	320	0.21	0.05
EL/BRDG Foundations	500	0.33	0.08
EL/BRDG Column	500	0.33	0.08
EL/BRDG Spans	500	0.33	0.08
Top (TB)(AG)	1,000	0.66	0.17
Dust Control	190	0.13	0.03
Offsite hauling	820	0.54	0.14

D) Vehicle Fugitive Dust Emissions on Unpaved Roads

Fugitive Dust Emissions

Option 1

Uncontrolled Emission Factors and Emissions

	Emission Factors (lb/VMT)	
	PM10	PM2.5
Unpaved Road (uncontrolled)	0.99	0.10
Unpaved Road (with watering unpaved road twice a day)	0.45	0.04

Emission factor (lb/VMT) = $(k)[(s/12)^{0.9}][[(W/3)^{0.45}]$ (EPA AP-42, 13.2.2, for industrial sites)

k = constant (lb/VMT) = 1.5 lb/VMT for PM10 and 0.15 lb/VMT for PM2.5

s = Silt Content (8.5%, construction sites, AP-42, Table 13.2.2.1)

W = avg. vehicle weight (tons) = 2.4 ton

Control efficiency of watering the unpaved road twice a day 55% (data from CalEEMod 2022.1 defaults)

Emissions from Unpaved Roads

Activity	Maximum Daily Emissions		
	Total Trip miles	PM10	PM2.5
	VMT/day	lb/day	lb/day
Cant Prep	0	0.00	0.00
Cant FM/PR/ST	0	0.00	0.00
Cant Finish	0	0.00	0.00
Incised Prep/Placement	0	0.00	0.00
Incised Finish	0	0.00	0.00
EL/BRDG Prep	0	0.00	0.00
EL/BRDG Foundations	0	0.00	0.00
EL/BRDG Column	0	0.00	0.00
EL/BRDG Spans	0	0.00	0.00
Top (TB)(AG)	0	0.00	0.00
Dust Control	0	0.00	0.00
Offsite hauling	0	0.00	0.00

Summary of Fugitive Dust Emissions

Activity	Maximum Daily Emissions		Onsite Daily Emissions	
	PM10	PM2.5	PM10	PM2.5
	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.25	0.06	0.00	0.00
Cant FM/PR/ST	0.21	0.05	0.00	0.00
Cant Finish	0.13	0.03	0.00	0.00
Incised Prep/Placement	0.70	0.15	0.21	0.02
Incised Finish	0.42	0.10	0.00	0.00
EL/BRDG Prep	0.21	0.05	0.00	0.00
EL/BRDG Foundations	0.33	0.08	0.00	0.00
EL/BRDG Column	0.33	0.08	0.00	0.00
EL/BRDG Spans	0.33	0.08	0.00	0.00
Top (TB)(AG)	0.87	0.19	0.21	0.02
Dust Control	0.13	0.03	0.00	0.00
Offsite hauling	0.55	0.14	0.00	0.00

2025 Construction Emissions Summary

Option 1

April	May	June	July	Aug	Sept	Oct	Location	Activity	2025 working months	2025 working days	Daily Emissions/activity								Total Emissions								
											ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e			
											lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year			
Elevated/Bridge											0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.037	0.105	0.227	0.001	0.016	0.006	63.090			
02B-100 to 02B-130											0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.037	0.105	0.227	0.001	0.016	0.006	63.090			
EL/BRDG Prep							02B-100 to 02B-130	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.037	0.105	0.227	0.001	0.016	0.006	63.090			
EL/BRDG Foundations							02B-100 to 02B-130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233			
EL/BRDG Foundations							02B-100 to 02B-130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233			
EL/BRDG Column							02B-100 to 02B-130	EL/BRDG Column	5	110	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.008	0.086	0.219	0.001	0.021	0.006	44.203			
EL/BRDG Column							02B-100 to 02B-130	EL/BRDG Column	5	110	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.008	0.086	0.219	0.001	0.021	0.006	44.204			
EL/BRDG Spans							02B-100 to 02B-130	EL/BRDG Spans	4	88	0.154	2.091	4.781	0.010	0.379	0.116	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.955			
EL/BRDG Spans							02B-100 to 02B-130	EL/BRDG Spans	4	88	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.955			
01B-140							sub total	Sub Total			1.487	15.462	39.125	0.090	2.671	0.915	9019.689	0.098	0.873	2.239	0.005	0.148	0.051	469.813			
EL/BRDG Prep							01B-140	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.037	0.105	0.227	0.001	0.016	0.006	63.090			
EL/BRDG Foundations							01B-140	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233			
EL/BRDG Foundations							01B-140	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233			
EL/BRDG Column							01B-140	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044			
EL/BRDG Column							01B-140	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044			
EL/BRDG Spans							01B-140	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933			
EL/BRDG Spans							01B-140	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933			
EL/BRDG Spans							01B-140	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933			
01B-150							sub total	Sub Total			2.133	21.287	52.665	0.119	3.899	1.264	11907.518	0.137	1.379	3.490	0.008	0.248	0.082	790.359			
EL/BRDG Prep							01B-150	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.037	0.105	0.227	0.001	0.016	0.006	63.090			
EL/BRDG Foundations							01B-150	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233			
EL/BRDG Foundations							01B-150	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233			
EL/BRDG Column							01B-150	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044			
EL/BRDG Column							01B-150	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044			
EL/BRDG Spans							01B-150	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933			
EL/BRDG Spans							01B-150	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933			
EL/BRDG Spans							01B-150	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933			
01B-150							sub total	Sub Total			2.133	21.287	52.665	0.119	3.899	1.264	11907.518	0.137	1.379	3.490	0.008	0.248	0.082	790.359			
general											1.343	8.231	9.209	0.039	0.421	0.299	4129.780	0.103	0.634	0.709	0.003	0.032	0.023	288.483			
Dust Control							General	Dust Control	7	154	0.023	3.045	0.121	0.027	0.798	0.338	2942.700	0.003	0.235	0.099	0.002	0.062	0.026	205.561			
Offsite Hauling							General	Offsite Hauling	7	154	0.023	3.045	0.121	0.027	0.798	0.338	2942.700	0.003	0.235	0.099	0.002	0.062	0.026	205.561			
sub total							Sub Total				1.366	11.277	9.329	0.066	1.218	0.636	7072.481	0.109	0.868	0.718	0.005	0.094	0.049	404.044			

Total Construction Emissions (Onsite and Offsite)								Total Construction Emissions (Onsite and Offsite)							
Daily overlapping Emissions (July)								Annual Emissions							
ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	
lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day		ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	
7.319	69.153	153.783	0.394	11.508	4.080	39907.205		0.478	4.499	9.818	0.026	0.738	0.265	2364.575	

Daily Emissions/activity (on-site only)										Daily Emissions/activity (on-site only)									
ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797						

2026 Construction Emissions Summary

Option

April	May	June	July	Aug	Sept	Oct	Location	Activity	2026 working months	2026 working days	Daily Emissions/activity							Total Emissions						
Elevated/Bridge											ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
01B-110/01B-CONN-100											lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year
EL/BRDG Prep							01B-110/01B-CONN-100	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030
EL/BRDG Foundations							01B-110/01B-CONN-100	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233
EL/BRDG Column							01B-110/01B-CONN-100	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233
EL/BRDG Spans							01B-110/01B-CONN-100	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044
							01B-110/01B-CONN-100	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933
							01B-110/01B-CONN-100	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933
								Sub Total			1.548	13.900	35.147	0.081	2.293	0.799	8133.774	0.099	0.896	2.274	0.005	0.148	0.051	474.405
01B-CONN-10/20/30/40																								
EL/BRDG Prep							01B-CONN-10/20/30/40	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030
EL/BRDG Foundations							01B-CONN-10/20/30/40	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233
EL/BRDG Column							01B-CONN-10/20/30/40	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233
EL/BRDG Spans							01B-CONN-10/20/30/40	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044
							01B-CONN-10/20/30/40	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933
							01B-CONN-10/20/30/40	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933
								Sub Total			1.548	13.900	35.147	0.081	2.293	0.799	8133.774	0.099	0.896	2.274	0.005	0.148	0.051	474.405
01B-160																								
EL/BRDG Prep							01B-160	EL/BRDG Prep	2	44	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.007	0.042	0.091	0.000	0.006	0.003	25.212
EL/BRDG Foundations							01B-160	EL/BRDG Foundations	2	44	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.009	0.069	0.192	0.000	0.010	0.004	39.744
EL/BRDG Column							01B-160	EL/BRDG Column	2	44	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.003	0.034	0.088	0.000	0.008	0.003	17.681
EL/BRDG Spans							01B-160	EL/BRDG Spans	3	66	0.840	6.595	16.848	0.041	1.099	0.398	4140.500	0.018	0.145	0.371	0.001	0.024	0.009	82.638
								Sub Total			1.681	13.189	33.697	0.082	2.199	0.796	8281.000	0.037	0.290	0.741	0.002	0.048	0.018	165.276
02B-140/Bridge150																								
EL/BRDG Prep							02B-140/Bridge150	EL/BRDG Prep	2	44	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.007	0.042	0.091	0.000	0.006	0.003	25.212
EL/BRDG Foundations							02B-140/Bridge150	EL/BRDG Foundations	2	44	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.009	0.069	0.192	0.000	0.010	0.004	39.744
EL/BRDG Column							02B-140/Bridge150	EL/BRDG Column	2	44	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.003	0.034	0.088	0.000	0.008	0.003	17.681
EL/BRDG Spans							02B-140/Bridge150	EL/BRDG Spans	3	66	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.005	0.069	0.158	0.000	0.013	0.004	29.966
								Sub Total			0.994	8.686	21.630	0.051	1.479	0.515	5341.457	0.024	0.214	0.529	0.001	0.037	0.013	112.604
01B-CONN-50/60/70/80/90																								
EL/BRDG Prep							01B-CONN-50/60/70/80/90	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030
EL/BRDG Foundations							01B-CONN-50/60/70/80/90	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233
EL/BRDG Column							01B-CONN-50/60/70/80/90	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233
EL/BRDG Spans							01B-CONN-50/60/70/80/90	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044
							01B-CONN-50/60/70/80/90	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933
							01B-CONN-50/60/70/80/90	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933
								Sub Total			1.548	13.900	35.147	0.081	2.293	0.799	8133.774	0.099	0.896	2.274	0.005	0.148	0.051	474.405
General																								
Dust Control							General	Dust Control	7	154	1.343	8.231	9.209	0.039	0.421	0.299	4129.780	0.103	0.834	0.709	0.003	0.032	0.023	288.483
Offsite Hauling							General	Offsite Hauling	7	154	0.023	3.045	0.121	0.027	0.798	0.338	2942.700	0.002	0.235	0.009	0.002	0.061	0.026	205.561
							Sub Total	Sub Total			1.366	11.277	9.329	0.066	1.218	0.636	7072.481	0.105	0.868	0.718	0.005	0.094	0.049	494.044
Total Construction Emissions (Onsite and Offsite)											Daily overlapping Emissions (June)							Annual Emissions						
											ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
											lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year
											8.063	71.033	151.825	0.416	11.200	4.115	42369.809	0.462	4.062	8.811	0.024	0.623	0.234	2195.140

Daily Emissions/activity (onsite only)												
ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
1.480	13.588	30.211	0.063	0.313	0.293	6944.169	1.480	13.588	30.211	0.063	0.313	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027
13.338	80.211	15.802	0.063	0.311	0.293	6986.178	13.338	80.211	15.802	0.063	0.311	0.293
0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078
0.127	1.507</											

2027 Construction Emissions Summary

Option 1

April	May	June	July	Aug	Sept	Oct	Location	Activity	2027 working months	2027 working days	Daily Emissions/activity						Total Emissions							
INCISED											ROG	NOx	CO	SOx	PM ₁₀	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	
01B-150/160											lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year		
Incised Prep/Placement									3	66	0.881	6.257	15.315	0.038	0.934	0.325	3869.903	0.039	0.206	0.506	0.001	0.050	0.011	118.849
Incised Finish										66	0.133	1.413	6.165	0.011	0.463	0.131	1127.336	0.004	0.047	0.263	0.000	0.015	0.004	33.750
Sub Total											0.994	7.669	21.477	0.049	1.397	0.457	5007.239	0.043	0.253	0.769	0.001	0.065	0.015	152.599
02B-100											Incised Prep/Placement						Incised Finish							
Incised Prep/Placement									4	88	0.881	6.257	15.315	0.038	0.934	0.325	3869.903	0.039	0.206	0.506	0.001	0.050	0.011	118.849
Incised Finish										88	0.313	1.413	6.165	0.011	0.463	0.131	1127.336	0.008	0.047	0.263	0.000	0.015	0.004	33.750
Sub Total											0.994	7.669	21.477	0.049	1.397	0.457	5007.239	0.044	0.253	0.769	0.001	0.065	0.015	152.599
02B-130											Incised Prep/Placement						Incised Finish							
Incised Prep/Placement									3	66	0.881	6.257	15.315	0.038	0.934	0.325	3869.903	0.039	0.206	0.506	0.001	0.050	0.011	118.849
Incised Finish										66	0.313	1.413	6.165	0.011	0.463	0.131	1127.336	0.008	0.047	0.263	0.000	0.015	0.004	33.750
Sub Total											0.994	7.669	21.477	0.049	1.397	0.457	5007.239	0.043	0.253	0.769	0.001	0.065	0.015	152.599
02B-140											Incised Prep/Placement						Incised Finish							
Incised Prep/Placement									4	88	0.881	6.257	15.315	0.038	0.934	0.325	3869.903	0.039	0.206	0.506	0.001	0.050	0.011	118.849
Incised Finish										88	0.313	1.413	6.165	0.011	0.463	0.131	1127.336	0.008	0.047	0.263	0.000	0.015	0.004	33.750
Sub Total											0.994	7.669	21.477	0.049	1.397	0.457	5007.239	0.044	0.253	0.769	0.001	0.065	0.015	152.599
Top (TB)(AG)											Top (TB)(AG)						Top (TB)(AG)							
Top (TB)(AG)									2	44	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
Sub Total											1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
02B-110/130											Top (TB)(AG)						Top (TB)(AG)							
Top (TB)(AG)									2	44	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
Sub Total											1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
01B-CONN-60											Top (TB)(AG)						Top (TB)(AG)							
Top (TB)(AG)									2	44	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
Sub Total											1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
01B-CONN-90/110/120											Top (TB)(AG)						Top (TB)(AG)							
Top (TB)(AG)									2	44	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
Sub Total											1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.433	0.001	0.027	0.011	119.254
General											Dust Control						Offsite Hauling							
General									7	154	1.343	8.233	9.209	0.039	0.421	0.299	4129.780	0.103	0.634	0.799	0.003	0.034	0.023	288.483
Dust Control									7	154	0.023	0.045	0.121	0.002	0.208	0.138	2642.700	0.002	0.235	0.009	0.000	0.001	0.026	205.561
Offsite Hauling									7	154	1.366	8.277	9.329	0.041	0.629	0.438	6772.481	0.105	0.868	0.817	0.004	0.064	0.049	494.044
Sub Total											1.366	8.277	9.329	0.041	0.629	0.438	6772.481	0.105	0.868	0.817	0.004	0.064	0.049	494.044

Total Construction Emissions (Onsite and Offsite)							Total Construction Emissions (Onsite and Offsite)						
Daily overlapping Emissions (June)							Annual Emissions						
ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year
6.748	50.752	108.761	0.307	7.485	2.829	32309.240	0.392	2.547	5.758	0.018	0.414	0.163	1683.190

Daily Emissions/activity (on-site only)													
ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year
0.863	6.174	14.003	0.033	0.181	0.169	3494.162	0.097	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
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0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
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0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
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0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.019	0.018	727.167
0.990	7.527	19.060	0.040	0.200	0.187	4221.820	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
0.997	1.353	5.057	0.007	0.019	0.018	727.167	0.997	1.353	5.057	0.007	0.0		

Source: EMFAC2021 (v1.0.2) Emission Rates

Region Type: Air District

Calendar Year: 2025

Season: Annual

Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN, PHEV calculated based on total VMT

[illegible][illegible]

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e
	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
worker commute (LDA, LDT1, LDT2)	0.0108	0.0490	0.7859	0.0028	0.0179	0.0063	285.6605
Haul Truck (diesel)	0.0129	1.6847	0.0667	0.0147	0.1393	0.1113	1627.8156
Pickups	0.0156	0.7675	0.9785	0.0033	0.0190	0.0068	337.3491

1. CO₂e were calculated using the following global warming potential (GWP, 100-year GWP from CalEEMod 2022.1 User Guide, Appendix G, Table G-39)

Attachment 3
Option 2
Construction Emissions Calculations

Construction Emissions Summary: Option 2

Daily Emissions Summary - Onsite and Offsite (Project-wide)

Year	Maximum Daily Emissions					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2025	10.43	94.55	220.78	0.55	15.80	5.55
2026	8.46	76.65	174.61	0.44	12.79	4.53
2027	7.22	69.67	158.85	0.40	11.51	4.07
SCAQMD CEQA Thresholds	75	100	550	150	150	55
Exceeding Thresholds?	N	N	N	N	N	N

SCAQMD CEQA thresholds from <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>

Construction Emissions Summary: Onsite only, within one construction segment)

Year	Maximum Daily Emissions Onsite					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2025	5.33	50.93	109.74	0.23	1.12	1.05
2026	4.19	38.33	83.51	0.18	0.88	0.83
2027	6.61	54.00	109.53	0.25	1.40	1.31
SCAQMD LST Thresholds for Central Los Angeles @ 25m	NA	74	680	NA	5	3
Exceed LST Thresholds	NA	N	N	NA	N	N

SCAQMD LST Thresholds from <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>

Annual Emissions Summary

Year	Annual Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year
2025	0.64	5.95	13.74	0.03	1.00	0.35	3,176.3
2026	0.50	4.60	10.10	0.03	0.75	0.27	2,444.5
2027	0.43	3.83	7.86	0.02	0.60	0.22	2,022.6

2025 Construction Emissions Summary

2025 Construction Emissions Summary							Option 2																																			
April	May	June	July	Aug	Sept	Oct	Location	Activity	2025 working months	2025 working days	Daily Emissions/activity						Total Emissions																									
												ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e																	
Elevated/Bridge												lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	MT/year	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	MT/year																	
O1C-100 to O1C-130												0.301	1.099	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030																	
EL/BRDG Prep												5	110	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Column												5	110	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.008	0.086	0.219	0.001	0.021	0.006	44.204															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
Sub Total												Sub Total																														
O1C-150												2.919	26.905	69.334	0.017	0.676	1.506	15776.154	0.136	1.722	4.641	0.010	0.297	0.10	114.255																	
EL/BRDG Prep												5	110	0.301	1.099	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
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EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
Sub Total												Sub Total																														
O1C-160/170												2.133	21.207	52.665	0.019	1.309	1.264	11907.518	0.137	1.379	3.480	0.008	0.248	0.082	700.189																	
EL/BRDG Prep												5	110	0.301	1.099	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
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EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
Sub Total												Sub Total																														
O1C-160/170												2.133	21.207	52.665	0.019	1.309	1.264	11907.518	0.137	1.379	3.480	0.008	0.248	0.082	700.189																	
EL/BRDG Prep												5	110	0.301	1.099	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Foundations												6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Column												6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
EL/BRDG Spans												6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933															
Sub Total												Sub Total																														
INCISED																																										
O2C-100/130																																										
Incised Prep/Placement												4																														
Incised Finish												5	110	0.113	2.423	1.161	0.011	0.461	0.131	1137.336	0.006	0.078	0.339	0.001	0.007	0.002	56.250															
Sub Total												Sub Total																														
O1C-270/180												0.994	7.680	21.417	0.049	1.375	0.457	5097.239	0.045	0.354	1.013	0.002	0.066	0.022	214.715																	
Incised Prep/Placement												3																														
Incised Finish												3	66	0.881	6.257	15.315	0.048	0.514	0.325	3669.061	0.039	0.275	0.874	0.001	0.040	0.014	158.646															
Sub Total												Sub Total																														
General												7	154	1.945	8.261	9.209	0.049	1.431	0.599	1279.230	0.010	0.634	0.709	0.002	0.012	0.003	288.648															
Office Heating												7	154	0.032	3.045	0.123	0.027	7.798	0.338	2942.700	0.002	0.235	0.009	0.002	0.061	0.025	205.561															
Sub Total												Sub Total																														

Construction Emissions by Activity - Option 2

Emissions from Construction of Each Individual Activity

Activity	Sources	Daily Emissions (onsite and offsite, including dust)							Daily Emissions (Onsite only)						
		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
		lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	equipment	0.829	5.157	7.122	0.025	0.177	0.164	2663.017	0.829	5.157	7.122	0.025	0.177	0.164	2663.017
	vehicles	0.009	0.042	0.667	0.002	0.015	0.005	241.589	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.252	0.063	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.838	5.199	7.789	0.028	0.444	0.232	2904.606	0.829	5.157	7.122	0.025	0.177	0.164	2663.017
Cant FM/PR/ST	equipment	0.095	0.932	2.361	0.005	0.020	0.019	460.323	0.095	0.932	2.361	0.005	0.020	0.019	460.323
	vehicles	0.008	0.036	0.563	0.002	0.013	0.004	203.803	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.212	0.053	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.102	0.968	2.924	0.007	0.245	0.076	664.126	0.095	0.932	2.361	0.005	0.020	0.019	460.323
Cant Finish	equipment	0.047	1.103	1.546	0.002	0.008	0.008	223.474	0.047	1.103	1.546	0.002	0.008	0.008	223.474
	vehicles	0.005	0.021	0.333	0.001	0.008	0.003	120.794	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.126	0.031	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.052	1.124	1.879	0.004	0.142	0.042	344.269	0.047	1.103	1.546	0.002	0.008	0.008	223.474
Incised Prep/Placement	equipment	0.863	6.174	14.003	0.033	0.181	0.169	3494.162	0.863	6.174	14.003	0.033	0.181	0.169	3494.162
	vehicles	0.018	0.083	1.312	0.005	0.030	0.010	475.741	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.704	0.147	NA	NA	NA	NA	NA	0.207	0.022	NA
	Sub Total	0.881	6.257	15.315	0.038	0.914	0.325	3969.903	0.863	6.174	14.003	0.033	0.388	0.191	3494.162
Incised Finish	equipment	0.097	1.353	5.057	0.007	0.019	0.018	727.167	0.097	1.353	5.057	0.007	0.019	0.018	727.167
	vehicles	0.015	0.070	1.104	0.004	0.025	0.009	400.169	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.417	0.104	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.113	1.423	6.161	0.011	0.461	0.131	1127.336	0.097	1.353	5.057	0.007	0.019	0.018	727.167
EL/BRDG Prep	equipment	0.293	1.873	3.572	0.010	0.062	0.058	1059.423	0.293	1.873	3.572	0.010	0.062	0.058	1059.423
	vehicles	0.008	0.036	0.563	0.002	0.013	0.004	203.803	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.212	0.053	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.293	1.873	3.572	0.010	0.062	0.058	1059.423
EL/BRDG Foundations	equipment	0.388	3.068	7.862	0.016	0.083	0.078	1674.199	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.388	3.068	7.862	0.016	0.083	0.078	1674.199
EL/BRDG Column	equipment	0.127	1.507	3.103	0.006	0.028	0.026	568.754	0.127	1.507	3.103	0.006	0.028	0.026	568.754
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.127	1.507	3.103	0.006	0.028	0.026	568.754
EL/BRDG Spans	equipment	0.142	2.036	3.906	0.007	0.029	0.027	683.797	0.142	2.036	3.906	0.007	0.029	0.027	683.797
	vehicles	0.012	0.055	0.875	0.003	0.020	0.007	317.160	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.331	0.083	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.142	2.036	3.906	0.007	0.029	0.027	683.797
Top (TB)(AG)	equipment	1.495	10.068	17.937	0.051	0.317	0.294	5340.819	1.495	10.068	17.937	0.051	0.317	0.294	5340.819
	vehicles	0.024	0.111	1.750	0.006	0.040	0.014	634.321	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.869	0.188	NA	NA	NA	NA	NA	0.207	0.022	NA
	Sub Total	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	1.495	10.068	17.937	0.051	0.524	0.317	5340.819
Dust Control	equipment	1.338	8.210	8.875	0.038	0.287	0.265	4008.986	1.338	8.210	8.875	0.038	0.287	0.265	4008.986
	vehicles	0.005	0.021	0.333	0.001	0.008	0.003	120.794	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.126	0.031	NA	NA	NA	NA	NA	0.000	0.000	NA
	Sub Total	1.343	8.231	9.209	0.039	0.421	0.299	4129.780	1.338	8.210	8.875	0.038	0.287	0.265	4008.986
Offsite hauling	equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	vehicles	0.023	3.045	0.121	0.027	0.251	0.201	2942.700	NA	NA	NA	NA	NA	NA	NA
	dust	NA	NA	NA	NA	0.546	0.136	NA	NA	NA	NA	NA	0.000	0.000	NA

Construction Emissions by Activity - Option 2

	Sub Total	0.023	3.045	0.121	0.027	0.798	0.338	2942.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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Emissions from Each Construction Activity

Activity	Maximum Daily Emissions							Onsite Daily Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.84	5.20	7.79	0.03	0.44	0.23	2904.61	0.83	5.16	7.12	0.03	0.18	0.16	2663.02
Cant FM/PR/ST	0.10	0.97	2.92	0.01	0.24	0.08	664.13	0.09	0.93	2.36	0.00	0.02	0.02	460.32
Cant Finish	0.05	1.12	1.88	0.00	0.14	0.04	344.27	0.05	1.10	1.55	0.00	0.01	0.01	223.47
Incised Prep/Placement	0.88	6.26	15.32	0.04	0.91	0.33	3969.90	0.86	6.17	14.00	0.03	0.39	0.19	3494.16
Incised Finish	0.11	1.42	6.16	0.01	0.46	0.13	1127.34	0.10	1.35	5.06	0.01	0.02	0.02	727.17
EL/BRDG Prep	0.30	1.91	4.13	0.01	0.29	0.12	1263.23	0.29	1.87	3.57	0.01	0.06	0.06	1059.42
EL/BRDG Foundations	0.40	3.12	8.74	0.02	0.43	0.17	1991.36	0.39	3.07	7.86	0.02	0.08	0.08	1674.20
EL/BRDG Column	0.14	1.56	3.98	0.01	0.38	0.12	885.91	0.13	1.51	3.10	0.01	0.03	0.03	568.75
EL/BRDG Spans	0.15	2.09	4.78	0.01	0.38	0.12	1000.96	0.14	2.04	3.91	0.01	0.03	0.03	683.80
Top (TB)(AG)	1.52	10.18	19.69	0.06	1.23	0.50	5975.14	1.50	10.07	17.94	0.05	0.52	0.32	5340.82
Dust Control	1.34	8.23	9.21	0.04	0.42	0.30	4129.78	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
Offsite hauling	0.02	3.05	0.12	0.03	0.80	0.34	2942.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Onsite Equipment Emissions Option 2

Onsite Equipment Information and Emission Factors

							CalEEMod Emission Factors (100% load)									
			HP	Hour/day			ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH4	N2O	CO2e
	Equipment	Equipment Number	per equipment	per equipment	Emission factor Year	CalEEMod Default Load Factor	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
Cant Prep	Saw	1	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super 10	3	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
Cant FM/PR/ST	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
Cant Finish	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Manlift	1	46	6.4	2025	0.31	0.090	2.750	4.100	0.005	0.010	0.010	586.900	0.024	0.005	588.990
Incised Prep/Placement	Saw	2	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	gannon	1	148	6.4	2025	0.41	0.050	0.260	3.700	0.005	0.010	0.010	531.194	0.022	0.004	532.936
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	soil boring machine (tiebacks)	1	83	6.4	2025	0.50	0.050	0.260	3.700	0.005	0.010	0.010	522.567	0.021	0.004	524.284
	Grout Pump	1	11	0.8	2025	0.74	0.474	4.334	3.001	0.008	0.181	0.166	568.244	0.023	0.005	570.309
	Shotcrete truck	1	376	6.4	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	18 wheeler	1	376	1.6	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
Incised Finish	Excavator	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	587.238	0.024	0.005	589.328
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	steel drum roller B26	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	586.902	0.024	0.005	588.992
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
EL/BRDG Prep	Riding float	1	89	4.0	2025	0.36	0.050	0.260	3.700	0.005	0.010	0.010	527.686	0.021	0.004	529.403
	Saw	1	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Backhoe	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	LB 28 Heavy Duty Soil drill	1	83	6.4	2025	0.50	0.050	0.260	3.700	0.005	0.010	0.010	522.567	0.021	0.004	524.284
	Super10	1	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
EL/BRDG Foundations	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	Wheel loader	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
EL/BRDG Column	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825
	generator	2	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
EL/BRDG Spans	Compressor	2	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	Concrete Pump	1	376	0.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	Manlift	1	46	6.4	2025	0.31	0.090	2.750	4.100	0.005	0.010	0.010	586.900	0.024	0.005	588.990
	Saw	2	33	0.8	2025	0.73	0.090	2.750	4.100	0.007	0.010	0.010	575.013	0.023	0.005	577.078
	Super10	5	376	4.8	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304
	gannon	1	148	6.4	2025	0.41	0.050	0.260	3.700	0.005	0.010	0.010	531.194	0.022	0.004	532.936
	steel drum roller B26	1	36	6.4	2025	0.38	0.090	2.750	4.100	0.005	0.010	0.010	586.902	0.024	0.005	588.992
	Gradeall	1	82	6.4	2025	0.20	0.050	0.260	3.700	0.005	0.010	0.010	527.108	0.021	0.004	528.825

Onsite Equipment Emissions Option 2

Top (TB)(AG)	generator	1	14	1.2	2025	0.74	0.542	4.347	2.869	0.008	0.177	0.163	568.322	0.023	0.005	570.387
	Compressor	1	37	4.0	2025	0.48	0.090	2.750	4.100	0.007	0.010	0.010	568.363	0.023	0.005	570.428
	crane	1	367	0.8	2025	0.29	0.050	0.260	2.600	0.005	0.010	0.010	527.585	0.021	0.004	529.302
	vibraplate	1	8	0.8	2025	0.43	0.547	4.144	3.471	0.009	0.162	0.149	568.406	0.023	0.005	570.471
	Riding float	1	89	4.0	2025	0.36	0.050	0.260	3.700	0.005	0.010	0.010	527.686	0.021	0.004	529.403
	Front End Loader	1	84	6.4	2025	0.37	0.050	0.260	3.700	0.005	0.010	0.010	529.863	0.021	0.004	531.580
Dust Control	Water truck	3	376	8.0	2025	0.38	0.177	1.086	1.174	0.005	0.038	0.035	528.587	0.021	0.004	530.304

- Note
- CO2e were calculated using the following global warming potential (GWP, 100-year GWP from CalEEMod 2022.1 User Guide, Appendix G, Table G-39.)
CO2 1
CH4 25
N2O 298
 - Load factor and emission factors are from CalEEMod 2022.1 User Guide, Appendix G, Table G-12
 - Offsite equipment Efs for CO, Nox, ROG, PM10 and PM2.5 are Tier 4 emission factors per CalEEMod 2022.1 User's Guide Appendix G: Default Data Tables, Table G-13. Other emission factors are default emission factors per calendar year from CalEEMod 2022.1 User's Guide Appendix G: Default Data Tables, Table G-11.

Onsite Equipment Emissions

Activity	Equipment	Daily Emissions						
		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
		lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	Saw	0.00	0.12	0.17	0.00	0.00	0.00	24.52
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super 10	0.80	4.93	5.33	0.02	0.17	0.16	2405.39
Cant FM/PR/ST	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
	Generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
Cant Finish	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	Generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Manlift	0.02	0.55	0.82	0.00	0.00	0.00	118.50
Incised Prep/Placement	Saw	0.01	0.23	0.35	0.00	0.00	0.00	49.04
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
	gannon	0.04	0.22	3.17	0.00	0.01	0.01	456.28
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	soil boring machine (tiebacks)	0.03	0.15	2.17	0.00	0.01	0.01	306.99
	Grout Pump	0.01	0.06	0.04	0.00	0.00	0.00	8.19
	Shotcrete truck	0.36	2.19	2.37	0.01	0.08	0.07	1069.06
	Crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	18 wheeler	0.09	0.55	0.59	0.00	0.02	0.02	267.27
	Excavator	0.02	0.53	0.79	0.00	0.00	0.00	113.75
Incised Finish	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	steel drum roller B26	0.02	0.53	0.79	0.00	0.00	0.00	113.68
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Riding float	0.01	0.07	1.05	0.00	0.00	0.00	149.58
EL/BRDG Prep	Saw	0.00	0.12	0.17	0.00	0.00	0.00	24.52
	Backhoe	0.02	0.11	1.62	0.00	0.00	0.00	233.11
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
EL/BRDG Foundations	LB 28 Heavy Duty Soil drill	0.03	0.15	2.17	0.00	0.01	0.01	306.99
	Super10	0.27	1.64	1.78	0.01	0.06	0.05	801.80
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27
	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	Wheel loader	0.02	0.11	1.62	0.00	0.00	0.00	233.11

Onsite Equipment Emissions Option 2

EL/BRDG Column	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27
	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
EL/BRDG Spans	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.03	0.24	0.16	0.00	0.01	0.01	31.27
	Compressor	0.03	0.86	1.28	0.00	0.00	0.00	178.67
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	Concrete Pump	0.04	0.27	0.30	0.00	0.01	0.01	133.63
	Manlift	0.02	0.55	0.82	0.00	0.00	0.00	118.50
Top (TB)(AG)	Saw	0.01	0.23	0.35	0.00	0.00	0.00	49.04
	Super10	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
	gannon	0.04	0.22	3.17	0.00	0.01	0.01	456.28
	steel drum roller B26	0.02	0.53	0.79	0.00	0.00	0.00	113.68
	Gradeall	0.01	0.06	0.86	0.00	0.00	0.00	122.37
	generator	0.01	0.12	0.08	0.00	0.00	0.00	15.63
	Compressor	0.01	0.43	0.64	0.00	0.00	0.00	89.34
	crane	0.01	0.05	0.49	0.00	0.00	0.00	99.35
	vibraplate	0.00	0.03	0.02	0.00	0.00	0.00	3.46
	Riding float	0.01	0.07	1.05	0.00	0.00	0.00	149.58
	Front End Loader	0.02	0.11	1.62	0.00	0.00	0.00	233.11
Dust Control	Water truck	1.34	8.21	8.88	0.04	0.29	0.26	4008.99

Total Equipment Emissions per Activity

Activities	Daily Emissions/activity						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.83	5.16	7.12	0.03	0.18	0.16	2663.02
Cant FM/PR/ST	0.09	0.93	2.36	0.00	0.02	0.02	460.32
Cant Finish	0.05	1.10	1.55	0.00	0.01	0.01	223.47
Incised Prep/Placement	0.86	6.17	14.00	0.03	0.18	0.17	3494.16
Incised Finish	0.10	1.35	5.06	0.01	0.02	0.02	727.17
EL/BRDG Prep	0.29	1.87	3.57	0.01	0.06	0.06	1059.42
EL/BRDG Foundations	0.39	3.07	7.86	0.02	0.08	0.08	1674.20
EL/BRDG Column	0.13	1.51	3.10	0.01	0.03	0.03	568.75
EL/BRDG Spans	0.14	2.04	3.91	0.01	0.03	0.03	683.80
Top (TB)(AG)	1.50	10.07	17.94	0.05	0.32	0.29	5340.82
Dust Control	1.34	8.21	8.88	0.04	0.29	0.26	4008.99
Offsite hauling	0	0	0	0	0	0	0

Vehicle Emissions Option 2

Vehicle Emission Factors (EMFAC2021)

	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
Worker Commute	0.011	0.049	0.786	0.003	0.018	0.006	285.660
Haul Trucks, Ready Mix Trucks	0.013	1.685	0.067	0.015	0.139	0.111	1627.816
Crew Trucks	0.016	0.077	0.979	0.003	0.019	0.007	337.349

Note:

Vehicle emission factors were obtained from EMFAC2021:

Region: South Coast AQMD, 2025

Speed and model year: aggregated

Worker commute vehicles include auto and light duty trucks.

Haul trucks and ready mix trucks include heavy heavy-duty diesel trucks.

Crew truck vehicles include light duty trucks

Vehicle Emissions

Projects	Vehicle Types	Round Trips/day	miles/round trip	Daily Emissions						
				ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
				lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	Worker Commute	6	60	0.009	0.039	0.624	0.002	0.014	0.005	226.715
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
Cant FM/PR/ST	Worker Commute	5	60	0.007	0.032	0.520	0.002	0.012	0.004	188.929
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
Cant Finish	Worker Commute	3	60	0.004	0.019	0.312	0.001	0.007	0.002	113.357
	Crew Truck	1	10	0.000	0.002	0.022	0.000	0.000	0.000	7.437
Incised Prep/Placement	Worker Commute	12	60	0.017	0.078	1.247	0.004	0.028	0.010	453.429
	Crew Truck	3	10	0.001	0.005	0.065	0.000	0.001	0.000	22.311
Incised Finish	Worker Commute	10	60	0.014	0.065	1.040	0.004	0.024	0.008	377.858
	Crew Truck	3	10	0.001	0.005	0.065	0.000	0.001	0.000	22.311
EL/BRDG Prep	Worker Commute	5	60	0.007	0.032	0.520	0.002	0.012	0.004	188.929
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Foundations	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Column	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874
EL/BRDG Spans	Worker Commute	8	60	0.011	0.052	0.832	0.003	0.019	0.007	302.286
	Crew Truck	2	10	0.001	0.003	0.043	0.000	0.001	0.000	14.874

Vehicle Emissions		Option 2								
Top (TB)(AG)	Worker Commute	16	60	0.023	0.104	1.663	0.006	0.038	0.013	604.572
	Crew Truck	4	10	0.001	0.007	0.086	0.000	0.002	0.001	29.749
Dust Control	Worker Commute	3	60	0.004	0.019	0.312	0.001	0.007	0.002	113.357
	Crew Truck	1	10	0.000	0.002	0.022	0.000	0.000	0.000	7.437
Offsite Hauling	Haul Truck	16	20	0.009	1.188	0.047	0.010	0.098	0.079	1148.371
	Concrete Truck	25	20	0.014	1.857	0.074	0.016	0.153	0.123	1794.329

Vehicle Emissions							
Activity	Daily Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.01	0.04	0.67	0.00	0.02	0.01	241.59
Cant FM/PR/ST	0.01	0.04	0.56	0.00	0.01	0.00	203.80
Cant Finish	0.00	0.02	0.33	0.00	0.01	0.00	120.79
Incised Prep/Placement	0.02	0.08	1.31	0.00	0.03	0.01	475.74
Incised Finish	0.02	0.07	1.10	0.00	0.02	0.01	400.17
EL/BRDG Prep	0.01	0.04	0.56	0.00	0.01	0.00	203.80
EL/BRDG Foundations	0.01	0.06	0.87	0.00	0.02	0.01	317.16
EL/BRDG Column	0.01	0.06	0.87	0.00	0.02	0.01	317.16
EL/BRDG Spans	0.01	0.06	0.87	0.00	0.02	0.01	317.16
Top (TB)(AG)	0.02	0.11	1.75	0.01	0.04	0.01	634.32
Dust Control	0.00	0.02	0.33	0.00	0.01	0.00	120.79
Offsite Hauling	0.02	3.05	0.12	0.03	0.25	0.20	2942.70

VMT on Paved and Unpaved Roads

Onsite Equipment	Vehicle	Total VMT/day	Unpaved road%	Unpaved VMT/day	Paved VMT/day
Cant Prep	Worker Commute	360	0%	0	360
	Crew Truck	20	0%	0	20
Cant FM/PR/ST	Worker Commute	300	0%	0	300
	Crew Truck	20	0%	0	20
Cant Finish	Worker Commute	180	0%	0	180
	Crew Truck	10	0%	0	10
Incised Prep/Placement	Worker Commute	720	0%	0	720
	Crew Truck	30	0%	0	30
Incised Finish	Worker Commute	600	0%	0	600
	Crew Truck	30	0%	0	30
EL/BRDG Prep	Worker Commute	300	0%	0	300
	Crew Truck	20	0%	0	20

Vehicle Emissions		Option 2			
EL/BRDG Foundations	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
EL/BRDG Column	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
EL/BRDG Spans	Worker Commute	480	0%	0	480
	Crew Truck	20	0%	0	20
Top (TB)(AG)	Worker Commute	960	0%	0	960
	Crew Truck	40	0%	0	40
Dust Control	Worker Commute	180	0%	0	180
	Crew Truck	10	0%	0	10
Offsite Hauling	Haul Truck	320	0%	0	320
	Concrete Truck	500	0%	0	500

Fugitive Dust Emissions

Option 2

A) Grading

Fugitive dust emissions from grading

Activity	Equipment	Number of Grading Equipment	# acres/equipment	Acreage Graded/Day	Grader/Scraper VMT	Emission Factors		Daily Emissions	
						PM10	PM2.5	PM10	PM2.5
				acres	miles/day	lb/VMT	lb/VMT	lb/day	lb/day
Cant Prep	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Cant FM/PR/ST	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Cant Finish	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Incised Prep/Placement	Grader	1	0.5	0.5	0.34	0.60	0.065	0.21	0.02
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Incised Finish	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Prep	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Foundations	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Column	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
EL/BRDG Spans	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Top (TB)(AG)	Grader	1	0.5	0.5	0.34	0.60	0.065	0.21	0.02
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Dust Control	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00
Offsite hauling	Grader	0	0.5	0	0.00	0.60	0.065	0.00	0.00
	Scraper	0	1	0	0.00	0.60	0.065	0.00	0.00

Grading Dust Emissions Summary

	Daily Emissions	
	PM10	PM2.5
	lb/day	lb/day
Cant Prep	0.00000	0.00000
Cant FM/PR/ST	0.00000	0.00000
Cant Finish	0.00000	0.00000
Incised Prep/Placement	0.20680	0.02233
Incised Finish	0.00000	0.00000
EL/BRDG Prep	0.00000	0.00000
EL/BRDG Foundations	0.00000	0.00000
EL/BRDG Column	0.00000	0.00000
EL/BRDG Spans	0.00000	0.00000
Top (TB)(AG)	0.20680	0.02233

Note:

PM emissions were calculated using the following equation and parameters:

Emission factor (lb/VMT) = $k \times 0.051 \times (S)^{2.0}$ for PM10 and $k \times 0.040 \times (S)^{2.5}$ for PM2.5

k = Scaling Constant (0.60 for PM10 and 0.031 for PM2.5)

S = Mean Vehicle Speed, CalEEMod default = 7.1 miles/hour

VMT = $As / Wb \times 43,560$ (sqft/acre) / 5280 (ft/mile)

VMT: vehicle miles traveled

As: the acreage of the grading site (0.5 acre per CalEEMod default)

Wb: blade width of the grader. CalEEMod default Wb = 12 ft.

Control efficiency of watering the exposed area twice a day 61% (CalEEMod defaults)

Fugitive Dust Emissions

Option 2

B). Earth Material Loading/Handling

Dust from soil loading

Activities	Material Amount	Material Amount	Emission Factors		Daily Emissions	
			PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
	cy/day	ton/day	lb/ton	lb/ton	lb/day	lb/day
Offsite hauling	192	242.7	0.00001	0.000002	0.00	0.000

Note:

Material amount estimated based on 12 cy/load

Fugitive dust from materials unloading from trains and/or trucks are calculated using the following equations and parameters:

Emission factor (lb/ton) = (k)(0.0032)[(U/5)^{1.3}]/[(M/2)^{1.4}]

k = Particle Size Constant (0.35 for PM10 and 0.053 for PM2.5)

U = average wind speed

1.118 mph, 0.5 m/s for Los Angeles County (CalEEMod default, Table G-1 of CalEEMod 2022.1 User Guide Appendix G)

M = moisture content = 12% (CalEEMod Default)

Material density (CalEEMod default)

1.264 ton/CY

C) Vehicle Fugitive Dust Emissions on Paved Roads

Emission factor (g/VMT) = k X (sL)^{0.91} X W^{1.02}

		PM10	PM2.5
k		1.0	0.25
sL	g/m2	0.10	0.10
W	tons	2.4	2.4
EF	(g/VMT)	0.300	0.075

Equation from: AP-42 13.2.1

sL and W (silt loading and vehicle weight) are CalEEMod default values

Activity	Maximum Daily Emissions		
	Trip miles	PM10	PM2.5
	VMT/day	lb/day	lb/day
Cant Prep	380	0.25	0.06
Cant FM/PR/ST	320	0.21	0.05
Cant Finish	190	0.13	0.03
Incised Prep/Placement	750	0.50	0.12
Incised Finish	630	0.42	0.10
EL/BRDG Prep	320	0.21	0.05
EL/BRDG Foundations	500	0.33	0.08
EL/BRDG Column	500	0.33	0.08
EL/BRDG Spans	500	0.33	0.08
Top (TB)(AG)	1,000	0.66	0.17
Dust Control	190	0.13	0.03
Offsite hauling	820	0.54	0.14

D) Vehicle Fugitive Dust Emissions on Unpaved Roads

Uncontrolled Emission Factors and Emissions

	Emission Factors (lb/VMT)	
	PM10	PM2.5
Unpaved Road (uncontrolled)	0.99	0.10
Unpaved Road (with watering unpaved road twice a day)	0.45	0.04

Emission factor (lb/VMT) = (k)[(s/12)^{0.9}][(W/3)^{0.45}] (EPA AP-42, 13.2.2, for industrial sites)

k = constant (lb/VMT) = 1.5 lb/VMT for PM10 and 0.15 lb/VMT for PM2.5

s = Silt Content (8.5%, construction sites, AP-42, Table 13.2.2.1)

W = avg. vehicle weight (tons) = 2.4 ton

Control efficiency of watering the unpaved road twice a day

55% (data from CalEEMod 2022.1 defaults)

Fugitive Dust Emissions

Option 2

Emissions from Unpaved Roads

Activity	Maximum Daily Emissions		
	Total Trip miles	PM10	PM2.5
	VMT/day	lb/day	lb/day
Cant Prep	0	0.00	0.00
Cant FM/PR/ST	0	0.00	0.00
Cant Finish	0	0.00	0.00
Incised Prep/Placement	0	0.00	0.00
Incised Finish	0	0.00	0.00
EL/BRDG Prep	0	0.00	0.00
EL/BRDG Foundations	0	0.00	0.00
EL/BRDG Column	0	0.00	0.00
EL/BRDG Spans	0	0.00	0.00
Top (TB)(AG)	0	0.00	0.00
Dust Control	0	0.00	0.00
Offsite hauling	0	0.00	0.00

Summary of Fugitive Dust Emissions

Activity	Maximum Daily Emissions		Onsite Daily Emissions	
	PM10	PM2.5	PM10	PM2.5
	lb/day	lb/day	lb/day	lb/day
Cant Prep	0.25	0.06	0.00	0.00
Cant FM/PR/ST	0.21	0.05	0.00	0.00
Cant Finish	0.13	0.03	0.00	0.00
Incised Prep/Placement	0.70	0.15	0.21	0.02
Incised Finish	0.42	0.10	0.00	0.00
EL/BRDG Prep	0.21	0.05	0.00	0.00
EL/BRDG Foundations	0.33	0.08	0.00	0.00
EL/BRDG Column	0.33	0.08	0.00	0.00
EL/BRDG Spans	0.33	0.08	0.00	0.00
Top (TB)(AG)	0.87	0.19	0.21	0.02
Dust Control	0.13	0.03	0.00	0.00
Offsite hauling	0.55	0.14	0.00	0.00

2026 Construction Emissions Summary

Option 2

April	May	June	July	Aug	Sept	Oct	Location	Activity	2026 working months	2026 working days	Daily Emissions/activity								Total Emissions							
Elevated/Bridge											ROG	NOx	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂ e		
01C-110/130							01C-110/130	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030		
EL/BRDG Foundations							01C-110/130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233		
EL/BRDG Column							01C-110/130	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044		
EL/BRDG Spans							01C-110/130	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933		
EL/BRDG Spans							01C-110/130	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933		
Sub Total							Sub Total				1.841	17.553	43.906	0.100	3.051	1.032	10020.646	0.118	1.138	2.852	0.006	0.198	0.067	347.382		
02C-110/120/130							02C-110/120/130	EL/BRDG Prep	5	110	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.017	0.105	0.227	0.001	0.016	0.006	63.030		
EL/BRDG Foundations							02C-110/120/130	EL/BRDG Foundations	6	132	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.026	0.206	0.577	0.001	0.029	0.011	119.233		
EL/BRDG Column							02C-110/120/130	EL/BRDG Column	6	132	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.009	0.103	0.263	0.001	0.025	0.008	53.044		
EL/BRDG Spans							02C-110/120/130	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933		
EL/BRDG Spans							02C-110/120/130	EL/BRDG Spans	6	132	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.010	0.138	0.316	0.001	0.025	0.008	59.933		
Sub Total							Sub Total				2.133	21.207	52.665	0.119	3.809	1.264	11907.518	0.137	1.379	3.430	0.008	0.248	0.082	700.359		
01C-120 BRIDGE							01C-120 BRIDGE	EL/BRDG Prep	2	44	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.007	0.042	0.091	0.000	0.006	0.003	25.212		
EL/BRDG Foundations							01C-120 BRIDGE	EL/BRDG Foundations	2	44	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.009	0.069	0.192	0.000	0.010	0.004	39.744		
EL/BRDG Column							01C-120 BRIDGE	EL/BRDG Column	3	66	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.005	0.052	0.131	0.000	0.012	0.004	26.522		
EL/BRDG Spans							01C-120 BRIDGE	EL/BRDG Spans	3	66	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.005	0.069	0.158	0.000	0.013	0.004	29.966		
Sub Total							Sub Total				0.994	6.686	21.630	0.051	1.479	0.515	5141.457	0.025	0.211	0.572	0.001	0.041	0.014	121.445		
01C-140 BRIDGE							01C-140 BRIDGE	EL/BRDG Prep	2	44	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.007	0.042	0.091	0.000	0.006	0.003	25.212		
EL/BRDG Foundations							01C-140 BRIDGE	EL/BRDG Foundations	2	44	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.009	0.069	0.192	0.000	0.010	0.004	39.744		
EL/BRDG Column							01C-140 BRIDGE	EL/BRDG Column	2	44	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.003	0.034	0.088	0.000	0.008	0.003	17.681		
EL/BRDG Spans							01C-140 BRIDGE	EL/BRDG Spans	3	66	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.005	0.069	0.158	0.000	0.013	0.004	29.966		
Sub Total							Sub Total				0.994	6.686	21.630	0.051	1.479	0.515	5141.457	0.024	0.214	0.528	0.001	0.037	0.013	112.604		
01C-180/2C-100							01C-180/2C-100	EL/BRDG Prep	2	44	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.007	0.042	0.091	0.000	0.006	0.003	25.212		
EL/BRDG Foundations							01C-180/2C-100	EL/BRDG Foundations	2	44	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.009	0.069	0.192	0.000	0.010	0.004	39.744		
EL/BRDG Column							01C-180/2C-100	EL/BRDG Column	2	44	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.003	0.034	0.088	0.000	0.008	0.003	17.681		
EL/BRDG Spans							01C-180/2C-100	EL/BRDG Spans	3	66	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.005	0.069	0.158	0.000	0.013	0.004	29.966		
Sub Total							Sub Total				0.994	6.686	21.630	0.051	1.479	0.515	5141.457	0.024	0.214	0.528	0.001	0.037	0.013	112.604		
02C-140							02C-140	EL/BRDG Prep	2	44	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.007	0.042	0.091	0.000	0.006	0.003	25.212		
EL/BRDG Foundations							02C-140	EL/BRDG Foundations	2	44	0.400	3.123	8.736	0.020	0.434	0.167	1991.359	0.009	0.069	0.192	0.000	0.010	0.004	39.744		
EL/BRDG Column							02C-140	EL/BRDG Column	2	44	0.139	1.563	3.977	0.009	0.379	0.116	885.914	0.003	0.034	0.088	0.000	0.008	0.003	17.681		
EL/BRDG Spans							02C-140	EL/BRDG Spans	3	66	0.154	2.091	4.781	0.010	0.380	0.117	1000.958	0.005	0.069	0.158	0.000	0.013	0.004	29.966		
Sub Total							Sub Total				0.994	6.686	21.630	0.051	1.479	0.515	5141.457	0.024	0.214	0.528	0.001	0.037	0.013	112.604		
INCISED							02C-140	INCISED Prep/Placement	4	88	0.881	6.257	15.315	0.038	0.814	0.325	3969.903	0.039	0.275	0.674	0.002	0.040	0.014	158.466		
INCISED Finish							02C-140	INCISED Finish	4	88	0.113	1.423	6.161	0.011	0.131	0.127	376.306	0.005	0.063	0.271	0.001	0.020	0.006	45.000		
Sub Total							Sub Total				0.994	7.680	21.477	0.049	1.465	0.457	5097.239	0.044	0.338	0.945	0.002	0.060	0.020	203.465		
General							General	Dust Control	7	154	1.343	8.231	9.209	0.039	0.421	0.299	4129.780	0.103	0.614	0.709	0.003	0.032	0.023	288.843		
Dust Control							General	Off-site Hauling	7	154	0.013	0.223	3.945	0.021	0.038	0.027	70.078	0.002	0.021	0.042	0.000	0.001	0.001	0.001		
Sub Total							Sub Total				1.366	11.277	9.329	0.066	1.218	0.636	7077.481	0.105	0.638	0.718	0.005	0.034	0.024	449.444		

2027 Construction Emissions Summary

Option 2

April	May	June	July	Aug	Sept	Oct	Location	Activity	2027 working months	2027 working days	Daily Emissions/activity								Total Emissions							
Elevated/Bridge											ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e		ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	
OTC-CONN-30											lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	
EL/BRDG Prep							OTC-CONN-30	EL/BRDG Prep	3	66	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.010	0.063	0.136	0.000	0.009	0.004	37.818		
EL/BRDG Foundations							OTC-CONN-30	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Foundations							OTC-CONN-30	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Column							OTC-CONN-30	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Column							OTC-CONN-30	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Seams							OTC-CONN-30	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-30	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-30	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
Sub Total											1.841	17.553	43.906	0.100	3.051	1.032	10020.646	0.069	0.683	1.694	0.004	0.122	0.040	307.642		
OTC-CONN-40/OTC-CONN-70/80							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Prep	3	66	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.010	0.063	0.136	0.000	0.009	0.004	37.818		
EL/BRDG Foundations							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Foundations							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Column							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Column							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Seams							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-40/OTC-CONN-70/80	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
Sub Total											1.841	17.553	43.906	0.100	3.051	1.032	10020.646	0.069	0.683	1.694	0.004	0.122	0.040	307.642		
OTC-CONN-10/20/40							OTC-CONN-10/20/40	EL/BRDG Prep	3	66	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.010	0.063	0.136	0.000	0.009	0.004	37.818		
EL/BRDG Foundations							OTC-CONN-10/20/40	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Foundations							OTC-CONN-10/20/40	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Column							OTC-CONN-10/20/40	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Column							OTC-CONN-10/20/40	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Seams							OTC-CONN-10/20/40	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-10/20/40	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-10/20/40	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
Sub Total											1.841	17.553	43.906	0.100	3.051	1.032	10020.646	0.069	0.683	1.694	0.004	0.122	0.040	307.642		
OTC-CONN-70/80							OTC-CONN-70/80	EL/BRDG Prep	3	66	0.301	1.909	4.135	0.012	0.287	0.115	1263.226	0.010	0.063	0.136	0.000	0.009	0.004	37.818		
EL/BRDG Foundations							OTC-CONN-70/80	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Foundations							OTC-CONN-70/80	EL/BRDG Foundations	3	66	0.400	3.123	8.736	0.020	0.434	0.167	1993.359	0.013	0.103	0.288	0.001	0.014	0.006	59.617		
EL/BRDG Column							OTC-CONN-70/80	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Column							OTC-CONN-70/80	EL/BRDG Column	4	88	0.139	1.563	3.977	0.009	0.139	0.116	885.914	0.006	0.069	0.175	0.000	0.017	0.005	35.363		
EL/BRDG Seams							OTC-CONN-70/80	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-70/80	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
EL/BRDG Seams							OTC-CONN-70/80	EL/BRDG Seams	4	88	0.154	1.093	4.781	0.010	0.380	0.117	1000.958	0.007	0.092	0.210	0.000	0.017	0.005	39.959		
Sub Total											1.841	17.553	43.906	0.100	3.051	1.032	10020.646	0.069	0.683	1.694	0.004	0.122	0.040	307.642		
Cantilever (C)							OTC-100																			
Cant Prep							OTC-100	Cant Prep	1	22	0.838	5.139	7.789	0.028	0.444	0.232	2304.606	0.009	0.057	0.086	0.000	0.005	0.003	28.986		
Cant Paving/ST							OTC-100	Cant Paving/ST	1	22	0.001	0.008	1.934	0.001	0.015	0.015	66.135	0.001	0.011	0.032	0.000	0.001	0.001	0.001		
Cant Finish							OTC-100	Cant Finish	1	22	0.082	1.114	1.879	0.004	0.142	0.042	344.269	0.001	0.012	0.021	0.000	0.002	0.000	0.001	0.001	
Sub Total											0.992	7.252	12.591	0.038	0.631	0.290	2913.001	0.011	0.080	0.139	0.000	0.009	0.004	30.949		
Top (TB)(AG)							OTC-130/140																			
Top (TB)(AG)							OTC-130/140	Top (TB)(AG)	2	44	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.483	0.001	0.027	0.011	119.234		
Sub Total											1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.224	0.483	0.001	0.027	0.011	119.234		
OTC-CONN-10/OTC-CONN-90							OTC-CONN-10/OTC-CONN-90	Top (TB)(AG)	1	22	1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.112	0.217	0.001	0.013	0.005	59.627		
Sub Total											1.519	10.179	19.686	0.057	1.226	0.496	5975.140	0.033	0.112	0.217	0.001	0.013	0.005	59.627		
General																										
Dust Control								Dust Control	7	154	1.343	8.271	9.209	0.039	0.421	0.299	4173.780	0.103	0.634	0.709	0.003	0.023	0.008	288.443		
Off-site Hauling								Off-site Hauling	7	154	0.038	0.485	0.121	0.027	0.088	0.028	2842.709	0.022	0.061	0.128	0.000	0.005	0.002	226.561		
Sub Total											1.366	11.271	9.329	0.066	1.218	0.618	7027.461	0.105	0.688	0.718	0.005	0.049	0.040	404.484		

Attachment 4

Operation Emissions Calculations

Operation Emissions Summary

Annual Emissions Summary

Activities	Proposed Project	Option 1	Option 2
	CO ₂ e	CO ₂ e	CO ₂ e
	MT/year	MT/year	MT/year
Trip Reduction	-36.4	-36.4	-36.4
O&M	19.3	19.3	19.3
Indirect Electricity Use	13.6	13.6	13.6
Total Project Emissions	-3.5	-3.5	-3.5

Operation Emissions - GHG from Indirect Energy Consumption For Lighting

GHG Emission Factors

CO2	CH4	N2O	CO2e
lb/MWh	lb/MWh	lb/MWh	lb/MWh
513.455	0.032	0.004	515.483

Note:

GHG emission factors were from EPA eGrid for 2020, Subregion WECC California

Operation Emissions - Annual GHG Emissions from Energy Consumption

	Total Energy Consumption	CO2e Emissions
	MWh/year	metric ton/year
Lighting	58.0	13.6

Note:

Energy consumption data is based on the following assumptions

20W each light

800 lights

10 hours per day of lighting

Vehicle Emissions

O&M

Vehicle Emission Factors (EMFAC2021)

	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
Worker Commute	0.008	0.038	0.670	0.003	0.018	0.006	266.035
Heavy duty truck	0.012	1.532	0.058	0.014	0.140	0.112	1554.101
Pickup	0.012	0.057	0.819	0.003	0.019	0.007	314.203

Note:

Vehicle emission factors were obtained from EMFAC2021:

Region: South Coast AQMD, 2028
Speed and model year: aggregated
Worker commute vehicles include auto and light duty trucks.
Pickups include light duty trucks

Vehicle Emissions

Projects	Vehicle Types	Round Trips/day	miles/round trip	Number of Days per Year	Daily Emissions							Annual Emissions						
					ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
					lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year
Path pavement sealing, repaving, and pothole repair	worker Commute	5	60	1	0.005	0.025	0.443	0.002	0.012	0.004	175.949	0.000	0.000	0.000	0.000	0.000	0.000	0.088
	Heavy duty truck	2	50	1	0.003	0.338	0.013	0.003	0.031	0.025	342.615	0.000	0.000	0.000	0.000	0.000	0.000	0.171
Path pavement sweeping	worker Commute	1	60	52	0.001	0.005	0.089	0.000	0.002	0.001	35.190	0.000	0.000	0.002	0.000	0.000	0.000	0.915
	Heavy duty truck	1	66	52	0.002	0.223	0.008	0.002	0.020	0.016	226.126	0.000	0.006	0.000	0.000	0.001	0.000	5.879
Path marking replacement	worker Commute	3	60	1	0.003	0.015	0.266	0.001	0.007	0.002	105.570	0.000	0.000	0.000	0.000	0.000	0.000	0.053
	Heavy duty truck	1	66	1	0.002	0.223	0.008	0.002	0.020	0.016	226.126	0.000	0.000	0.000	0.000	0.000	0.000	0.113
Graffiti removal	worker Commute	2	60	52	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.005	0.000	0.000	0.000	1.830
	pickup	2	50	52	0.003	0.013	0.181	0.001	0.004	0.001	69.269	0.000	0.000	0.005	0.000	0.000	0.000	1.801
Solid waste disposal and recycling (<i>Trash pick-up only</i>)	worker Commute	1	60	52	0.001	0.005	0.089	0.000	0.002	0.001	35.190	0.000	0.000	0.002	0.000	0.000	0.000	0.915
	Heavy duty truck	1	50	52	0.001	0.169	0.006	0.002	0.015	0.012	171.307	0.000	0.004	0.000	0.000	0.000	0.000	4.454
Sign replacement and repair	worker Commute	2	60	1	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.000	0.000	0.000	0.000	0.035
	Heavy duty truck	1	50	1	0.001	0.169	0.006	0.002	0.015	0.012	171.307	0.000	0.000	0.000	0.000	0.000	0.000	0.086
Fence and barrier replacement and repair	worker Commute	2	60	4	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.000	0.000	0.000	0.000	0.141
	Heavy duty truck	1	50	4	0.001	0.169	0.006	0.002	0.015	0.012	171.307	0.000	0.000	0.000	0.000	0.000	0.000	0.343
Lighting replacement and repair	worker Commute	2	60	4	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.000	0.000	0.000	0.000	0.141
	Heavy duty truck	1	50	4	0.001	0.169	0.006	0.002	0.015	0.012	171.307	0.000	0.000	0.000	0.000	0.000	0.000	0.343
Furniture maintenance	worker Commute	2	60	4	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.000	0.000	0.000	0.000	0.141
	pickup	1	50	4	0.001	0.006	0.090	0.000	0.002	0.001	34.634	0.000	0.000	0.000	0.000	0.000	0.000	0.069
Emergency telephone maintenance	worker Commute	1	50	2	0.001	0.004	0.074	0.000	0.002	0.001	29.325	0.000	0.000	0.000	0.000	0.000	0.000	0.029
	Heavy duty truck	1	50	2	0.001	0.169	0.006	0.002	0.015	0.012	171.307	0.000	0.000	0.000	0.000	0.000	0.000	0.171
Bridge inspection	worker Commute	2	60	2	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.000	0.000	0.000	0.000	0.070
	pickup	1	50	2	0.001	0.006	0.090	0.000	0.002	0.001	34.634	0.000	0.000	0.000	0.000	0.000	0.000	0.035
Weed control	worker Commute	2	60	2	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.000	0.000	0.000	0.000	0.070
	Heavy duty truck	1	50	2	0.001	0.169	0.006	0.002	0.015	0.012	171.307	0.000	0.000	0.000	0.000	0.000	0.000	0.171
Drainage system cleaning	worker Commute	3	60	2	0.003	0.015	0.266	0.001	0.007	0.002	105.570	0.000	0.000	0.000	0.000	0.000	0.000	0.106
	Heavy duty truck	1	50	2	0.001	0.169	0.006	0.002	0.015	0.012	171.307	0.000	0.000	0.000	0.000	0.000	0.000	0.171
Landscaping and irrigation system maintenance	worker Commute	2	60	52	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.005	0.000	0.000	0.000	1.830
	pickup	1	50	52	0.001	0.006	0.090	0.000	0.002	0.001	34.634	0.000	0.000	0.002	0.000	0.000	0.000	0.900
Low-impact development, BMPs, regular inspections. and corrective maintenance (such as bioswales)	worker Commute	2	60	4	0.002	0.010	0.177	0.001	0.005	0.002	70.380	0.000	0.000	0.000	0.000	0.000	0.000	0.141
	pickup	1	50	4	0.001	0.006	0.090	0.000	0.002	0.001	34.634	0.000	0.000	0.000	0.000	0.000	0.000	0.069

Vehicle Emissions

Activity	Daily Emissions							Annual Emissions						
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year
Path pavement sealing, repaving, and pothole repair	0.01	0.36	0.46	0.00	0.04	0.03	518.56	0.00	0.00	0.00	0.00	0.00	0.00	0.26
Path pavement sweeping	0.00	0.23	0.10	0.00	0.02	0.02	261.32	0.00	0.01	0.00	0.00	0.00	0.00	6.79
Path marking replacement	0.00	0.24	0.27	0.00	0.03	0.02	331.70	0.00	0.00	0.00	0.00	0.00	0.00	0.17
Graffiti removal	0.00	0.02	0.36	0.00	0.01	0.00	139.65	0.00	0.00	0.01	0.00	0.00	0.00	3.63
Solid waste disposal and recycling (<i>Trash pick-up only</i>)	0.00	0.17	0.09	0.00	0.02	0.01	206.50	0.00	0.00	0.00	0.00	0.00	0.00	5.37
Sign replacement and repair	0.00	0.18	0.18	0.00	0.02	0.01	241.69	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Fence and barrier replacement and repair	0.00	0.18	0.18	0.00	0.02	0.01	241.69	0.00	0.00	0.00	0.00	0.00	0.00	0.48
Lighting replacement and repair	0.00	0.18	0.18	0.00	0.02	0.01	241.69	0.00	0.00	0.00	0.00	0.00	0.00	0.48
Furniture maintenance	0.00	0.02	0.27	0.00	0.01	0.00	105.01	0.00	0.00	0.00	0.00	0.00	0.00	0.21

Vehicle Emissions	O&M													
Emergency telephone maintenance	0.00	0.17	0.08	0.00	0.02	0.01	200.63	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Bridge inspection	0.00	0.02	0.27	0.00	0.01	0.00	105.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
Weed control	0.00	0.18	0.18	0.00	0.02	0.01	241.69	0.00	0.00	0.00	0.00	0.00	0.00	0.24
Drainage system cleaning	0.00	0.18	0.27	0.00	0.02	0.01	276.88	0.00	0.00	0.00	0.00	0.00	0.00	0.28
Landscaping and irrigation system maintenance	0.00	0.02	0.27	0.00	0.01	0.00	105.01	0.00	0.00	0.01	0.00	0.00	0.00	2.73
Low-impact development, BMPs, regular inspections. and corrective maintenance (such as bioswales)	0.00	0.02	0.27	0.00	0.01	0.00	105.01	0.00	0.00	0.00	0.00	0.00	0.00	0.21
Total O&M	0.06	2.16	3.44	0.03	0.27	0.17	3322.03	0.00	0.01	0.02	0.00	0.00	0.00	21.28

VMT on Paved and Unpaved Roads

Onsite Equipment	Vehicle	Total VMT/day	Number of days/year	Unpaved road%	Unpaved VMT/day	Paved VMT/day
Path pavement sealing, repaving, and pothole repair	worker Commute	300	1	0%	0	300
	Heavy duty truck	100	1	0%	0	100
Path pavement sweeping	worker Commute	60	52	0%	0	60
	Heavy duty truck	66	52	0%	0	66
Path marking replacement	worker Commute	180	1	0%	0	180
	Heavy duty truck	66	1	0%	0	66
Graffiti removal	worker Commute	120	52	0%	0	120
	pickup	100	52	0%	0	100
Solid waste disposal and recycling (<i>Trash pick-up only</i>)	worker Commute	60	52	0%	0	60
	Heavy duty truck	50	52	0%	0	50
Sign replacement and repair	worker Commute	120	1	0%	0	120
	Heavy duty truck	50	1	0%	0	50
Fence and barrier replacement and repair	worker Commute	120	4	0%	0	120
	Heavy duty truck	50	4	0%	0	50
Lighting replacement and repair	worker Commute	120	4	0%	0	120
	Heavy duty truck	50	4	0%	0	50
Furniture maintenance	worker Commute	120	4	0%	0	120
	pickup	50	4	0%	0	50
Emergency telephone maintenance	worker Commute	50	2	0%	0	50
	Heavy duty truck	50	2	0%	0	50
Bridge inspection	worker Commute	120	2	0%	0	120
	pickup	50	2	0%	0	50
Weed control	worker Commute	120	2	0%	0	120
	Heavy duty truck	50	2	0%	0	50
Drainage system cleaning	worker Commute	180	2	0%	0	180
	Heavy duty truck	50	2	0%	0	50
Landscaping and irrigation system maintenance	worker Commute	120	52	0%	0	120
	pickup	50	52	0%	0	50
Low-impact development, BMPs, regular inspections. and corrective maintenance (such as bioswales)	worker Commute	120	4	0%	0	120
	pickup	50	4	0%	0	50

Vehicle Emissions

O&M - Onsite Only

Vehicle Emission Factors (EMFAC2021)

	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
Worker Commute	0.008	0.038	0.670	0.003	0.018	0.006	266.035
Heavy duty truck	0.012	1.532	0.058	0.014	0.140	0.112	1554.101
Pickup	0.012	0.057	0.819	0.003	0.019	0.007	314.203

Note:

Vehicle emission factors were obtained from EMFAC2021:

Region: South Coast AQMD, 2028

Speed and model year: aggregated

Worker commute vehicles include auto and light duty trucks.

Pickups include light duty trucks

Vehicle Emissions

Projects	Vehicle Types	Round Trips/day	miles/round trip	Number of Days per Year	Daily Emissions						
					ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
					lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Path pavement sealing, repaving, and pothole repair	Heavy duty truck	2	16	1	0.001	0.108	0.004	0.001	0.010	0.008	109.637
Path pavement sweeping	Heavy duty truck	1	16	52	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Path marking replacement	Heavy duty truck	1	16	1	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Graffiti removal	pickup	2	16	52	0.001	0.004	0.058	0.000	0.001	0.000	22.166
Solid waste disposal and recycling (Trash pick-up only)	Heavy duty truck	1	16	52	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Sign replacement and repair	Heavy duty truck	1	16	1	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Fence and barrier replacement and repair	Heavy duty truck	1	16	4	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Lighting replacement and repair	Heavy duty truck	1	16	4	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Furniture maintenance	pickup	1	16	4	0.000	0.002	0.029	0.000	0.001	0.000	11.083
Emergency telephone maintenance	Heavy duty truck	1	16	2	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Bridge inspection	pickup	1	16	2	0.000	0.002	0.029	0.000	0.001	0.000	11.083
Weed control	Heavy duty truck	1	16	2	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Drainage system cleaning	Heavy duty truck	1	16	2	0.000	0.054	0.002	0.000	0.005	0.004	54.818
Landscaping and irrigation system maintenance	pickup	1	16	52	0.000	0.002	0.029	0.000	0.001	0.000	11.083
Low-impact development, BMPs, regular inspections. and	pickup	1	16	4	0.000	0.002	0.029	0.000	0.001	0.000	11.083
Total Emissions					0.007	0.606	0.196	0.006	0.058	0.045	669.500

VMT on Paved and Unpaved Roads

Onsite Equipment	Vehicle	Total VMT/day	Number of days/year	Unpaved road%	Unpaved VMT/day	Paved VMT/day
Path pavement sealing, repaving, and pothole repair	Heavy duty truck	32	1	0%	0	32
Path pavement sweeping	Heavy duty truck	16	52	0%	0	16
Path marking replacement	Heavy duty truck	16	1	0%	0	16
Graffiti removal	pickup	32	52	0%	0	32
Solid waste disposal and recycling (<i>Trash pick-up only</i>)	Heavy duty truck	16	52	0%	0	16
Sign replacement and repair	Heavy duty truck	16	1	0%	0	16
Fence and barrier replacement and repair	Heavy duty truck	16	4	0%	0	16
Lighting replacement and repair	Heavy duty truck	16	4	0%	0	16
Furniture maintenance	pickup	16	4	0%	0	16
Emergency telephone maintenance	Heavy duty truck	16	2	0%	0	16
Bridge inspection	pickup	16	2	0%	0	16
Weed control	Heavy duty truck	16	2	0%	0	16
Drainage system cleaning	Heavy duty truck	16	2	0%	0	16
Landscaping and irrigation system maintenance	pickup	16	52	0%	0	16
Low-impact development, BMPs, regular inspections. and corrective maintenance (such as bioswales)	pickup	16	4	0%	0	16

Vehicle Emissions Trip Reduction

Vehicle Emission Factors (EMFAC2021)

	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile
Passenger Vehicles/Light Trucks	0.008	0.038	0.670	0.003	0.018	0.006	266.035

Note:
Vehicle emission factors were obtained from EMFAC2021:
Region: South Coast AQMD, 2028
Speed and model year: aggregated
Worker commute vehicles include auto and light duty trucks.
Haul trucks and ready mix trucks include heavy heavy-duty diesel trucks.
Crew truck vehicles include light duty trucks

Vehicle Emissions

Projects	Vehicle Types	Round Trips/day	miles/round trip	Daily Emissions							Annual Emissions						
				ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂ e
				lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year
Trip Reduction	Passenger Vehicles/Light Trucks	150	2.5	-0.007	-0.031	-0.554	-0.002	-0.015	-0.005	-219.937	-0.001	-0.006	-0.101	0.000	-0.003	-0.001	-40.138

VMT on Paved and Unpaved Roads

Onsite Equipment	Vehicle	Total VMT/day	Unpaved road%	Unpaved VMT/day	Paved VMT/day
Trip Reduction	Passenger Vehicles/Light Trucks	375	0%	0	375

Fugitive Dust Emissions

Vehicle Fugitive Dust Emissions on Paved Roads

Emission factor (g/VMT) = $k \times (sL)^{0.91} \times W^{1.02}$

		PM10	PM2.5
k		1.0	0.25
sL	g/m2	0.10	0.10
W	tons	2.4	2.4
EF	(g/VMT)	0.300	0.075

Equation from: AP-42 13.2.1

sL and W (silt loading and vehicle weight) are CalEEMod default values

Total Fugitive Dust

Activity			Maximum Daily Emissions		Annual Emissions	
	Trip miles	Number of days/yea	PM10	PM2.5	PM10	PM2.5
	VMT/day	VMT/year	lb/day	lb/day	ton/year	ton/year
Path pavement sealing, repaving, and pothole repair	400	1	0.265	0.066	0.000	0.000
Path pavement sweeping	126	52	0.083	0.021	0.002	0.001
Path marking replacement	246	1	0.163	0.041	0.000	0.000
Graffiti removal	220	52	0.146	0.036	0.004	0.001
Solid waste disposal and recycling (<i>Trash pick-up only</i>)	110	52	0.073	0.018	0.002	0.000
Sign replacement and repair	170	1	0.113	0.028	0.000	0.000
Fence and barrier replacement and repair	170	4	0.113	0.028	0.000	0.000
Lighting replacement and repair	170	4	0.113	0.028	0.000	0.000
Furniture maintenance	170	4	0.113	0.028	0.000	0.000
Emergency telephone maintenance	100	2	0.066	0.017	0.000	0.000
Bridge inspection	170	2	0.113	0.028	0.000	0.000
Weed control	170	2	0.113	0.028	0.000	0.000
Drainage system cleaning	230	2	0.152	0.038	0.000	0.000
Landscaping and irrigation system maintenance	170	52	0.113	0.028	0.003	0.001
Low-impact development, BMPs, regular inspections. and corrective maintenance (such as bioswales)	170	4	0.113	0.028	0.000	0.000
Trip reduction	-375	365	-0.248	-0.062	-0.045	-0.011
Total O&M			1.85	0.46	0.01	0.00
Total trip reduction			-0.25	-0.06	-0.05	-0.01

Onsite Fugitive Dust

Activity			Maximum Daily Emissions		Annual Emissions	
	Trip miles	Number of days/yea	PM10	PM2.5	PM10	PM2.5
	VMT/day	VMT/year	lb/day	lb/day	ton/year	ton/year
Path pavement sealing, repaving, and pothole repair	32	1	0.021	0.005	0.000	0.000
Path pavement sweeping	16	52	0.011	0.003	0.000	0.000
Path marking replacement	16	1	0.011	0.003	0.000	0.000
Graffiti removal	32	52	0.021	0.005	0.001	0.000
Solid waste disposal and recycling (<i>Trash pick-up only</i>)	16	52	0.011	0.003	0.000	0.000
Sign replacement and repair	16	1	0.011	0.003	0.000	0.000
Fence and barrier replacement and repair	16	4	0.011	0.003	0.000	0.000
Lighting replacement and repair	16	4	0.011	0.003	0.000	0.000
Furniture maintenance	16	4	0.011	0.003	0.000	0.000
Emergency telephone maintenance	16	2	0.011	0.003	0.000	0.000
Bridge Inspection	16	2	0.011	0.003	0.000	0.000
Weed control	16	2	0.011	0.003	0.000	0.000
Drainage system cleaning	16	2	0.011	0.003	0.000	0.000
Landscaping and irrigation system maintenance	16	52	0.011	0.003	0.000	0.000
Low-impact development, BMPs, regular inspections. and corrective maintenance (such as bioswales)	16	4	0.011	0.003	0.000	0.000
Total O&M			0.18	0.05	0.00	0.00