

APPENDIX C

Updated Emissions Summary Tables (Based on Project Schedule as of March 2020)

Table 1 - Revised
American River Common Features (ARCF) 2016
Air Quality Emissions by Year and Project
DRAFT - Final Estimates for Review

2019

Project	Tons/year (Umitigated)			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Reach D Contract 1 (SREL Seepage Berm) ¹	0.02	0.15	0.07	0.02
Reach D Contract 1 (Beach Stone Lake Mitigation Site) ¹	0.02	0.32	3.21	0.68
Total Emissions (Sum)	0.0	0.5	3.3	0.7

2020

90% Specified % of HP mitigated with Tier 4 controls

Project	Tons/year (Umitigated)				Tons/year (On-Road Mitigated)		Tons/year (On-Road & Tier 4 Mitigated at Specified %)		Tons/year (On-Road & All Tier 4 Mitigated)	
	ROG	NO _x	PM ₁₀	PM _{2.5}	ROG	NO _x	ROG	NO _x	ROG	NO _x
Sacramento River Seepage/ Stability Contract 1 - Berm and Wells	0.63	6.60	2.53	0.75	0.26	0.83	0.26	0.83	0.26	0.83
Sacramento River Seepage/ Stability Contract 1 - Cutoff Wall	2.82	31.60	5.77	2.18	1.30	4.27	1.30	4.27	1.30	4.27
Total Emissions (Sum)	3.4	38.2	8.3	2.9	1.6	5.1	1.6	5.1	1.6	5.1

2021

Project	Tons/year (Umitigated)				Tons/year (On-Road Mitigated)		Tons/year (On-Road & Tier 4 Mitigated at Specified %)		Tons/year (On-Road & All Tier 4 Mitigated)	
	ROG	NO _x	PM ₁₀	PM _{2.5}	ROG	NO _x	ROG	NO _x	ROG	NO _x
American River Erosion Contract 1	0.26	2.34	0.49	0.14	0.26	2.34	0.20	0.90	0.19	0.74
Sacramento River Erosion Contract 1	0.19	0.74	0.32	0.09	0.19	0.74	0.19	0.74	0.19	0.74
Sacramento River Erosion Contract 1 - Barge Emissions ²	0.08	1.24	0.05	0.05	0.08	1.24	0.08	1.24	0.08	1.24
Sacramento Weir	1.22	15.78	39.37	8.56	1.16	12.00	0.76	4.78	0.71	3.97
Sacramento Weir - Barge Emissions ²	0.09	1.23	0.07	0.06	0.09	1.23	0.09	1.23	0.09	1.23
Sacramento River Seepage/ Stability Contract 2 - Berm and Wells	0.51	5.17	1.59	0.51	0.51	4.99	0.22	1.13	0.19	0.71
Sacramento River Seepage/ Stability Contract 2 - Cutoff Wall	2.39	26.13	5.18	1.89	2.36	24.19	1.30	5.90	1.19	3.87
Total Emissions (Sum)	4.8	52.6	47.1	11.3	4.7	46.7	2.8	15.9	2.6	12.5

Table 1 - Revised
American River Common Features (ARCF) 2016
Air Quality Emissions by Year and Project
DRAFT - Final Estimates for Review

2022

Project	Tons/year (Umitigated)				Tons/year (On-Road Mitigated)		Tons/year (On-Road & Tier 4 Mitigated at Specified %)		Tons/year (On-Road & All Tier 4 Mitigated)	
	ROG	NO _x	PM ₁₀	PM _{2.5}	ROG	NO _x	ROG	NO _x	ROG	NO _x
Mitigation	0.22	1.90	33.11	6.96	0.22	1.89	0.13	0.52	0.13	0.37
American River Erosion Contract 2	1.34	24.78	1.91	0.81	1.19	15.01	0.76	8.21	0.71	7.46
Sacramento River Erosion Contract 2 - Part 1	0.61	5.95	1.34	0.48	0.61	5.89	0.32	1.50	0.29	1.01
Sacramento River Erosion Contract 2 - Part 1 Barge Emissions ²	0.43	5.61	0.30	0.27	0.43	5.61	0.43	5.61	0.43	5.61
Sacramento River Erosion Contract 2 - Part 2	0.56	5.22	1.30	0.45	0.56	5.18	0.31	1.43	0.29	1.01
Sacramento River Erosion Contract 2 - Part 2 Barge Emissions ²	0.43	5.61	0.30	0.27	0.43	5.61	0.43	5.61	0.43	5.61
Sacramento Weir	1.76	16.98	53.59	11.67	1.75	16.14	1.11	4.47	1.04	3.17
Sacramento River Seepage/ Stability Contract 3 - Cutoff Wall	1.93	20.21	4.70	1.61	1.90	18.84	1.12	4.89	1.04	3.34
Magpie Creek	0.52	8.34	0.67	0.30	0.48	5.45	0.33	3.03	0.31	2.77
Total Emissions (Sum)	7.8	94.6	97.2	22.8	7.6	79.6	5.0	35.3	4.7	30.3

2023

Project	Tons/year (Umitigated)				Tons/year (On-Road Mitigated)		Tons/year (On-Road & Tier 4 Mitigated at Specified %)		Tons/year (On-Road & All Tier 4 Mitigated)	
	ROG	NO _x	PM ₁₀	PM _{2.5}	ROG	NO _x	ROG	NO _x	ROG	NO _x
Sacramento River Erosion Contract 3 - Part 1	0.52	4.71	1.28	0.43	0.52	4.71	0.31	1.37	0.29	1.00
Sacramento River Erosion Contract 3 - Part 1 Barge Emissions ²	0.43	5.61	0.30	0.27	0.43	5.61	0.43	5.61	0.43	5.61
Sacramento River Erosion Contract 3 - Part 2	0.56	5.22	1.30	0.45	0.56	5.18	0.31	1.43	0.29	1.01
Sacramento River Erosion Contract 3 - Part 2 Barge Emissions ²	0.43	5.61	0.30	0.27	0.43	5.61	0.43	5.61	0.43	5.61
American River Erosion Contract 2	1.24	21.82	1.85	0.75	1.10	13.70	0.75	7.93	0.71	7.29
Sacramento Weir	1.24	10.75	44.52	9.61	1.24	10.74	0.83	2.87	0.79	1.99
Sacramento Weir - Barge Emissions ²	0.27	3.41	0.19	0.17	0.27	3.41	0.27	3.41	0.27	3.41
Sacramento River Seepage/ Stability Contract 4 - Berm and Wells	0.43	4.09	2.41	0.65	0.43	4.08	0.22	1.02	0.19	0.68
Sacramento River Seepage/ Stability Contract 4 - Cutoff Wall	0.40	3.85	1.29	0.40	0.40	3.83	0.25	1.04	0.23	0.73
Total Emissions (Sum)	5.5	65.1	53.4	13.0	5.4	56.9	3.8	30.3	3.6	27.3
General Conformity Thresholds	25	25	100	100	25	25	25	25	25	25

Notes: ¹ From USACE; ² No Mitigation

Table 4 - Revised
American River Common Features (ARCF) 2016
Allocation of Annual NO_x Emissions to Quarters
Includes Only Years Exceeding General Conformity Thresholds After Use of Equipment Mitigation
DRAFT - Final Estimates for Review

2021

Project	Tons/year (On-Road & 90% Tier 4 Mitigated)	Allocation as Percent of Annual Emissions				Emissions per Quarter (tons)			
	NO _x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
American River Erosion Contract 1	0.90			33%	67%	0.0	0.0	0.3	0.6
Sacramento River Erosion Contract 1	0.74			50%	50%	0.0	0.0	0.4	0.4
Sacramento River Erosion Contract 1 - Barge	1.24			50%	50%	0.0	0.0	0.6	0.6
Sacramento Weir	4.78	13%	32%	42%	13%	0.6	1.5	2.0	0.6
Sacramento Weir - Barge Emissions ²	1.23	13%	32%	42%	13%	0.2	0.4	0.5	0.2
Sacramento River Seepage/ Stability Contract 2 - Berm and Wells	1.13		25%	38%	38%	0.0	0.3	0.4	0.4
Sacramento River Seepage/ Stability Contract 2 - Cutoff Wall	5.90		43%	43%	14%	0.0	2.5	2.5	0.8
Total Emissions (Sum)	15.9					0.8	4.7	6.8	3.6

2022

Project	Tons/year (On-Road & 90% Tier 4 Mitigated)	Allocation as Percent of Annual Emissions				Emissions per Quarter (tons)			
	NO _x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Mitigation	0.52	25%	25%	25%	25%	0.1	0.1	0.1	0.1
American River Erosion Contract 2	8.21			33%	67%	0.0	0.0	2.7	5.5
Sacramento River Erosion Contract 2 - Part 1	1.50			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 2 - Part 1 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento River Erosion Contract 2 - Part 2	1.43			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 2 - Part 2 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento Weir	4.47	25%	25%	25%	25%	1.1	1.1	1.1	1.1
Sacramento River Seepage/ Stability Contract 3 - Cutoff Wall	4.89		43%	43%	14%	0.0	2.1	2.1	0.7
Maggie Creek	3.03		25%	38%	38%	0.0	0.8	1.1	1.1
Total Emissions (Sum)	35.3					1.2	4.1	14.3	15.6

2023

Project	Tons/year (On-Road & 90% Tier 4 Mitigated)	Allocation as Percent of Annual Emissions				Emissions per Quarter (tons)			
	NO _x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
American River Erosion Contract 2	7.93			33%	67%	0.0	0.0	2.6	5.3
Sacramento River Erosion Contract 3 - Part 1	1.37			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 3 - Part 1 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento River Erosion Contract 3 - Part 2	1.43			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 3 - Part 2 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento Weir	2.87	13%	32%	42%	13%	0.4	0.9	1.2	0.4
Sacramento Weir - Barge Emissions ²	3.41	13%	32%	42%	13%	0.4	1.1	1.4	0.4
Sacramento River Seepage/ Stability Contract 4 - Berm and Wells	1.02		43%	43%	14%	0.0	0.4	0.4	0.1
Sacramento River Seepage/ Stability Contract 4 - Cutoff Wall	1.04		25%	38%	38%	0.0	0.3	0.4	0.4
Total Emissions (Sum)	30.3					0.8	2.7	13.1	13.6

Table 5 - Revised
American River Common Features (ARCF) 2016
Allocation of Annual NO_x Emissions to Quarters
Emissions Only within Sacramento Metro Air Quality Management District (SMAQMD)
Includes Only Years Exceeding General Conformity Thresholds After Use of Equipment Mitigation
DRAFT - Final Estimates for Review

2021

Project	Tons/year (On-Road & 90% Tier 4 Mitigated)	Allocation as Percent of Annual Emissions				Emissions per Quarter (tons)			
	NO _x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
American River Erosion Contract 1	0.90			33%	67%	0.0	0.0	0.3	0.6
Sacramento River Erosion Contract 1	0.74			50%	50%	0.0	0.0	0.4	0.4
Sacramento River Erosion Contract 1 - Barge	1.24			50%	50%	0.0	0.0	0.6	0.6
Sacramento River Seepage/ Stability Contract 2 - Berm and Wells	1.13		25%	38%	38%	0.0	0.3	0.4	0.4
Sacramento River Seepage/ Stability Contract 2 - Cutoff Wall	5.90		43%	43%	14%	0.0	2.5	2.5	0.8
Total Emissions (Sum)	9.9					0.0	2.8	4.3	2.8

2022

Project	Tons/year (On-Road & 90% Tier 4 Mitigated)	Allocation as Percent of Annual Emissions				Emissions per Quarter (tons)			
	NO _x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Mitigation	0.52	25%	25%	25%	25%	0.1	0.1	0.1	0.1
American River Erosion Contract 2	8.21			33%	67%	0.0	0.0	2.7	5.5
Sacramento River Erosion Contract 2 - Part 1	1.50			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 2 - Part 1 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento River Erosion Contract 2 - Part 2	1.43			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 2 - Part 2 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento River Seepage/ Stability Contract 3 - Cutoff Wall	4.89		43%	43%	14%	0.0	2.1	2.1	0.7
Magpie Creek	3.03		25%	38%	38%	0.0	0.8	1.1	1.1
Total Emissions (Sum)	30.8					0.1	3.0	13.2	14.5

2023

Project	Tons/year (On-Road & 90% Tier 4 Mitigated)	Allocation as Percent of Annual Emissions				Emissions per Quarter (tons)			
	NO _x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
American River Erosion Contract 2	7.93			33%	67%	0.0	0.0	2.6	5.3
Sacramento River Erosion Contract 3 - Part 1	1.37			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 3 - Part 1 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento River Erosion Contract 3 - Part 2	1.43			50%	50%	0.0	0.0	0.7	0.7
Sacramento River Erosion Contract 3 - Part 2 Barge Emissions ²	5.61			50%	50%	0.0	0.0	2.8	2.8
Sacramento River Seepage/ Stability Contract 4 - Berm and Wells	1.02		43%	43%	14%	0.0	0.4	0.4	0.1
Sacramento River Seepage/ Stability Contract 4 - Cutoff Wall	1.04		25%	38%	38%	0.0	0.3	0.4	0.4
Total Emissions (Sum)	24.0					0.0	0.7	10.5	12.8

Table 6 - Revised
American River Common Features (ARCF) 2016
Allocation of Annual NOx Emissions to Quarters
Emissions Only within Yolo Solano Air Quality Management District (YSAQMD)
Includes Only Years Exceeding General Conformity Thresholds After Use of Equipment Mitigation
DRAFT - Final Estimates for Review

2021

Project	<i>Tons/year (On-Road & 90% Tier 4 Mitigated)</i>	<i>Allocation as Percent of Annual Emissions</i>				<i>Emissions per Quarter (tons)</i>			
	NO_x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sacramento Weir	4.78	13%	32%	42%	13%	0.6	1.5	2.0	0.6
Sacramento Weir - Barge Emissions ²	1.23	13%	32%	42%	13%	0.2	0.4	0.5	0.2
Total Emissions (Sum)	6.0					0.8	1.9	2.5	0.8

2022

Project	<i>Tons/year (On-Road & 90% Tier 4 Mitigated)</i>	<i>Allocation as Percent of Annual Emissions</i>				<i>Emissions per Quarter (tons)</i>			
	NO_x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sacramento Weir	4.47	25%	25%	25%	25%	1.1	1.1	1.1	1.1
Total Emissions (Sum)	4.5					1.1	1.1	1.1	1.1

2023

Project	<i>Tons/year (On-Road & 90% Tier 4 Mitigated)</i>	<i>Allocation as Percent of Annual Emissions</i>				<i>Emissions per Quarter (tons)</i>			
	NO_x	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sacramento Weir	2.87	13%	32%	42%	13%	0.4	0.9	1.2	0.4
Sacramento Weir - Barge Emissions ²	3.41	13%	32%	42%	13%	0.4	1.1	1.4	0.4
Total Emissions (Sum)	6.3					0.8	2.0	2.6	0.8