Table L1-644. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

		PM10 Daily Emissions Summary, lbs/day																	
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
02 - Relocations																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Temporary Electrical Power																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
09 - Channels and Canals																				
4	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing																			
	Material Handling		n/a	n/a	n/a															
	Grading		1.06	1.06	1.06															
	Bulldozing		n/a	n/a	n/a															
	Unpaved Road Dust		n/a	n/a	n/a															
	Paved Road Dust																			
	Clearing and Grubbing Subtotal	--	**1.06**	**1.06**	**1.06**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Excavation/Grading (Dry Conditions)																			
	Material Handling					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Grading					5.30	5.30	5.30	5.30	5.30	5.30	5.30								
	Bulldozing					2.35	2.35	2.35	2.35	2.35	2.35	2.35								
	Unpaved Road Dust					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Paved Road Dust																			
	Excavation/Grading (Dry Conditions) Subtotal	--	--	--	--	**7.65**	**7.65**	**7.65**	**7.65**	**7.65**	**7.65**	**7.65**	--	--	--	--	--	--	--	--

Table L1-644. PM10 Emissions Summary from Fugitive I

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations											
1	Mobilization and Demobilization										
	Material Handling				n/a						n/a
	Grading				n/a						n/a
	Bulldozing				n/a						n/a
	Unpaved Road Dust				n/a						n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)										
	Material Handling			n/a							n/a
	Grading			0.53							0.00
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust										
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	**0.53**	--	--	--	--	--	--	**0.00**
3	Temporary Electrical Power										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	**0.53**	--	--	--	--	--	--	**0.00**
09 - Channels and Canals											
4	Mobilization and Demobilization										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing										
	Material Handling										n/a
	Grading										0.01
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Clearing and Grubbing Subtotal	--	--	--	--	--	--	--	--	--	**0.01**
6	Excavation/Grading (Dry Conditions)										
	Material Handling										n/a
	Grading										0.08
	Bulldozing										0.04
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Excavation/Grading (Dry Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.11**

Table L1-644. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

		PM10 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
7	Riprap - Class 2																			
	Material Handling							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading							1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	Bulldozing							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**
8	Erosion Control Seeding																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	**1.06**	**1.06**	**1.06**	**7.65**	**7.65**	**8.71**	**8.71**	**8.71**	**8.71**	**8.71**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**
11 - Levees and Floodwalls																				
9	Mobilization and Demobilization																			
	Material Handling			n/a																
	Grading			n/a																
	Bulldozing			n/a																
	Unpaved Road Dust			n/a																
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill																			
	Material Handling				4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12
	Grading				1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	Bulldozing				4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70
	Unpaved Road Dust			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Berm/Levee Fill Subtotal	--	--	--	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**
	11 - Levees and Floodwalls Total	--	--	--	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**
15 - Floodway Control and Diversion Structures																				
11	Mobilization and Demobilization																			
	Material Handling					n/a													n/a	
	Grading					n/a													n/a	
	Bulldozing					n/a													n/a	
	Unpaved Road Dust					n/a													n/a	
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)																			
	Material Handling								n/a											
	Grading								n/a											
	Bulldozing								n/a											
	Unpaved Road Dust								n/a											
	Paved Road Dust																			
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L1-644. PM10 Emissions Summary from Fugitive I

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
7	Riprap - Class 2										
	Material Handling										n/a
	Grading										0.04
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	--	--	--	**0.04**
8	Erosion Control Seeding										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	--	--	--	--	--	--	--	--	**0.16**
11 - Levees and Floodwalls											
9	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill										
	Material Handling	4.12	4.12								0.20
	Grading	1.06	1.06								0.05
	Bulldozing	4.70	4.70								0.22
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Berm/Levee Fill Subtotal	**9.88**	**9.88**	--	--	--	--	--	--	--	**0.47**
	11 - Levees and Floodwalls Total	**9.88**	**9.88**	--	--	--	--	--	--	--	**0.47**
15 - Floodway Control and Diversion Structures											
11	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--

Table L1-644. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

		PM10 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
13	Construction Site Dewatering (Pumping)																			
	Material Handling									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Grading									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Bulldozing									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Unpaved Road Dust									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Paved Road Dust																			
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)																			
	Material Handling						n/a	n/a			n/a									
	Grading						n/a	n/a			n/a									
	Bulldozing						n/a	n/a			n/a									
	Unpaved Road Dust						112.65	112.65			112.65									
	Paved Road Dust																			
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	**112.65**	**112.65**	--	--	**112.65**	--	--	--	--	--	--	--	--	--
15	Sheet Pile Wall																			
	Material Handling											n/a								
	Grading											n/a								
	Bulldozing											n/a								
	Unpaved Road Dust											n/a								
	Paved Road Dust																			
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall																			
	Material Handling												n/a							
	Grading												n/a							
	Bulldozing												n/a							
	Unpaved Road Dust												n/a							
	Paved Road Dust																			
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'																			
	Material Handling													n/a						
	Grading													n/a						
	Bulldozing													n/a						
	Unpaved Road Dust													n/a						
	Paved Road Dust																			
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure																			
	Material Handling														n/a					
	Grading														n/a					
	Bulldozing														n/a					
	Unpaved Road Dust														n/a					
	Paved Road Dust																			
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates																			
	Material Handling															n/a	n/a	n/a		
	Grading															n/a	n/a	n/a		
	Bulldozing															n/a	n/a	n/a		
	Unpaved Road Dust															n/a	n/a	n/a		
	Paved Road Dust																			
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	**112.65**	**112.65**	--	--	**112.65**	--	--	--	--	--	--	--	--	--

Table L1-644. PM10 Emissions Summary from Fugitive I

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
13	Construction Site Dewatering (Pumping)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										0.80
	Paved Road Dust										
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.80**
15	Sheet Pile Wall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	--	--	--	--	**0.80**

Table L1-644. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

#	Activity	PM10 Daily Emissions Summary, lbs/day																		
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
19 - Buildings, Grounds, and Utilities																				
20	Mobilization and Demobilization																			
	Material Handling	n/a						n/a												
	Grading	n/a						n/a												
	Bulldozing	n/a						n/a												
	Unpaved Road Dust	n/a						n/a												
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction																			
	Material Handling		n/a	n/a	n/a	n/a	n/a													
	Grading		2.12	2.12	2.12	2.12	2.12													
	Bulldozing		2.35	2.35	2.35	2.35	2.35													
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a													
	Paved Road Dust																			
	CMU Building and Earthwork Pad Construction Subtotal	--	**4.47**	**4.47**	**4.47**	**4.47**	**4.47**	--	--	--	--	--	--	--	--	--	--	--	--	--
22	Concrete Duct Bank																			
	Material Handling					n/a														
	Grading					n/a														
	Bulldozing					n/a														
	Unpaved Road Dust					n/a														
	Paved Road Dust																			
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	**4.47**	**4.47**	**4.47**	**4.47**	**4.47**	--	--	--	--	--	--	--	--	--	--	--	--	--
20 -Permanent Operating Equipment																				
23	Mobilization and Demobilization																			
	Material Handling															n/a				
	Grading															n/a				
	Bulldozing															n/a				
	Unpaved Road Dust															n/a				
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment																			
	Material Handling																n/a	n/a	n/a	
	Grading																n/a	n/a	n/a	
	Bulldozing																n/a	n/a	n/a	
	Unpaved Road Dust																n/a	n/a	n/a	
	Paved Road Dust																			
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		--	**5.53**	**5.53**	**15.41**	**22.00**	**134.65**	**131.24**	**18.59**	**18.59**	**131.24**	**18.59**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**

Table L1-644. PM10 Emissions Summary from Fugitive I

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
19 - Buildings, Grounds, and Utilities											
20	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction										
	Material Handling										n/a
	Grading										0.03
	Bulldozing										0.04
	Unpaved Road Dust										n/a
	Paved Road Dust										
	CMU Building and Earthwork Pad Construction Subtotal	--	--	--	--	--	--	--	--	--	**0.07**
22	Concrete Duct Bank										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	--	--	--	--	--	--	--	--	**0.07**
20 -Permanent Operating Equipment											
23	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		**9.88**	**9.88**	**0.53**	--	--	--	--	--	--	**1.50**

Table L1-645. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
02 - Relocations																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Temporary Electrical Power																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
09 - Channels and Canals																				
4	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing																			
	Material Handling		n/a	n/a	n/a															
	Grading		0.11	0.11	0.11															
	Bulldozing		n/a	n/a	n/a															
	Unpaved Road Dust		n/a	n/a	n/a															
	Paved Road Dust																			
	Clearing and Grubbing Subtotal	--	**0.11**	**0.11**	**0.11**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Excavation/Grading (Dry Conditions)																			
	Material Handling					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Grading					0.57	0.57	0.57	0.57	0.57	0.57	0.57								
	Bulldozing					1.29	1.29	1.29	1.29	1.29	1.29	1.29								
	Unpaved Road Dust					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Paved Road Dust																			
	Excavation/Grading (Dry Conditions) Subtotal	--	--	--	--	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	--	--	--	--	--	--	--	--

Table L1-645. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations											
1	Mobilization and Demobilization										
	Material Handling				n/a						n/a
	Grading				n/a						n/a
	Bulldozing				n/a						n/a
	Unpaved Road Dust				n/a						n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)										
	Material Handling			n/a							n/a
	Grading			0.06							0.00
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust										
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	**0.06**	--	--	--	--	--	--	**0.00**
3	Temporary Electrical Power										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	**0.06**	--	--	--	--	--	--	**0.00**
09 - Channels and Canals											
4	Mobilization and Demobilization										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing										
	Material Handling										n/a
	Grading										0.00
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Clearing and Grubbing Subtotal	--	--	--	--	--	--	--	--	--	**0.00**
6	Excavation/Grading (Dry Conditions)										
	Material Handling										n/a
	Grading										0.01
	Bulldozing										0.02
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Excavation/Grading (Dry Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.03**

Table L1-645. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
7	Riprap - Class 2																			
	Material Handling							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading							0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	Bulldozing							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**
8	Erosion Control Seeding																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	**0.11**	**0.11**	**0.11**	**1.86**	**1.86**	**1.98**	**1.98**	**1.98**	**1.98**	**1.98**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**
11 - Levees and Floodwalls																				
9	Mobilization and Demobilization																			
	Material Handling			n/a																
	Grading			n/a																
	Bulldozing			n/a																
	Unpaved Road Dust			n/a																
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill																			
	Material Handling				0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
	Grading				0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	Bulldozing				2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58
	Unpaved Road Dust				n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Berm/Levee Fill Subtotal	--	--	--	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**
	11 - Levees and Floodwalls Total	--	--	--	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**
15 - Floodway Control and Diversion Structures																				
11	Mobilization and Demobilization																			
	Material Handling					n/a													n/a	
	Grading					n/a													n/a	
	Bulldozing					n/a													n/a	
	Unpaved Road Dust					n/a													n/a	
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)																			
	Material Handling								n/a											
	Grading								n/a											
	Bulldozing								n/a											
	Unpaved Road Dust								n/a											
	Paved Road Dust																			
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L1-645. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
7	Riprap - Class 2										
	Material Handling										n/a
	Grading										0.00
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	--	--	--	**0.00**
8	Erosion Control Seeding										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	--	--	--	--	--	--	--	--	**0.03**
11 - Levees and Floodwalls											
9	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill										
	Material Handling	0.62	0.62								0.03
	Grading	0.11	0.11								0.01
	Bulldozing	2.58	2.58								0.12
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Berm/Levee Fill Subtotal	**3.32**	**3.32**	--	--	--	--	--	--	--	**0.16**
	11 - Levees and Floodwalls Total	**3.32**	**3.32**	--	--	--	--	--	--	--	**0.16**
15 - Floodway Control and Diversion Structures											
11	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--

Table L1-645. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
13	Construction Site Dewatering (Pumping)																			
	Material Handling									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Grading									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Bulldozing									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Unpaved Road Dust									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Paved Road Dust																			
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)																			
	Material Handling						n/a	n/a			n/a									
	Grading						n/a	n/a			n/a									
	Bulldozing						n/a	n/a			n/a									
	Unpaved Road Dust						11.27	11.27			11.27									
	Paved Road Dust																			
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	**11.27**	**11.27**	--	--	**11.27**	--	--	--	--	--	--	--	--	--
15	Sheet Pile Wall																			
	Material Handling											n/a								
	Grading											n/a								
	Bulldozing											n/a								
	Unpaved Road Dust											n/a								
	Paved Road Dust																			
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall																			
	Material Handling												n/a							
	Grading												n/a							
	Bulldozing												n/a							
	Unpaved Road Dust												n/a							
	Paved Road Dust																			
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'																			
	Material Handling													n/a						
	Grading													n/a						
	Bulldozing													n/a						
	Unpaved Road Dust													n/a						
	Paved Road Dust																			
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure																			
	Material Handling														n/a					
	Grading														n/a					
	Bulldozing														n/a					
	Unpaved Road Dust														n/a					
	Paved Road Dust																			
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates																			
	Material Handling															n/a	n/a	n/a		
	Grading															n/a	n/a	n/a		
	Bulldozing															n/a	n/a	n/a		
	Unpaved Road Dust															n/a	n/a	n/a		
	Paved Road Dust																			
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	**11.27**	**11.27**	--	--	**11.27**	--	--	--	--	--	--	--	--	--

Table L1-645. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
13	Construction Site Dewatering (Pumping)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										0.08
	Paved Road Dust										
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.08**
15	Sheet Pile Wall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	--	--	--	--	**0.08**

Table L1-645. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure)

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
19 - Buildings, Grounds, and Utilities																				
20	Mobilization and Demobilization																			
	Material Handling	n/a						n/a												
	Grading	n/a						n/a												
	Bulldozing	n/a						n/a												
	Unpaved Road Dust	n/a						n/a												
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction																			
	Material Handling		n/a	n/a	n/a	n/a	n/a													
	Grading		0.23	0.23	0.23	0.23	0.23													
	Bulldozing		1.29	1.29	1.29	1.29	1.29													
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a													
	Paved Road Dust																			
	CMU Building and Earthwork Pad Construction Subtotal	--	**1.52**	**1.52**	**1.52**	**1.52**	**1.52**	--	--	--	--	--	--	--	--	--	--	--	--	--
22	Concrete Duct Bank																			
	Material Handling					n/a														
	Grading					n/a														
	Bulldozing					n/a														
	Unpaved Road Dust					n/a														
	Paved Road Dust																			
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	**1.52**	**1.52**	**1.52**	**1.52**	**1.52**	--	--	--	--	--	--	--	--	--	--	--	--	--
20 -Permanent Operating Equipment																				
23	Mobilization and Demobilization																			
	Material Handling															n/a				
	Grading															n/a				
	Bulldozing															n/a				
	Unpaved Road Dust															n/a				
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment																			
	Material Handling																n/a	n/a	n/a	
	Grading																n/a	n/a	n/a	
	Bulldozing																n/a	n/a	n/a	
	Unpaved Road Dust																n/a	n/a	n/a	
	Paved Road Dust																			
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		--	**1.63**	**1.63**	**4.96**	**6.70**	**17.97**	**16.56**	**5.30**	**5.30**	**16.56**	**5.30**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**

Table L1-645. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
19 - Buildings, Grounds, and Utilities											
20	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction										
	Material Handling										n/a
	Grading										0.00
	Bulldozing										0.02
	Unpaved Road Dust										n/a
	Paved Road Dust										
	CMU Building and Earthwork Pad Construction Subtotal	--	--	--	--	--	--	--	--	--	**0.02**
22	Concrete Duct Bank										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	--	--	--	--	--	--	--	--	**0.02**
20 -Permanent Operating Equipment											
23	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		**3.32**	**3.32**	**0.06**	--	--	--	--	--	--	**0.29**

Southern Water Control Structure
Fugitive Dust Emissions - Material Handling (Truck Loading/Unloading)

Equation (AP-42, Chapter 13.2.4):

$$E = k(0.0032)\frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

where:
E = emission factor, pound per ton
k = particle size multiplier
U = mean wind speed, miles per hour
M = material moisture content, %

Average Wind Speed 8.59 mph
Source: MesoWest, Station KSMF (Sacramento International Airport), 2015 data. Site accessed October 27, 2016. mesowest.utah.edu.

k values
PM10 0.35
PM2.5 0.053

Material Moisture Content (%)
Spoils 12 *Source: CalEEMod 2016.3.1 User's Guide; default values*
Limestone 2.1 *Source: AP-42, Table 13.2.4-1; various limestone products*
Demolition 2 *Source: CalEEMod 2016.3.1 User's Guide; default values*

Table L1-646. Material Handling Emissions (Southern Water Control Structure)

Activity	Total Daily Output, cy/day	Quantity, cy/year	Total Daily Output, ton/day	Quantity, ton/year	Type	PM10 EF, lb/ton	PM2.5 EF, lb/ton	PM10, lbs/day	PM2.5, lbs/day	PM10, tpy	PM2.5, tpy
09 - Channels and Grading											
Excavation/Grading (Dry Conditions)	3,500	104,380	4,375	130,475	Spoils	1.84E-04	2.79E-05	0.6	0.1	0.01	0.00
Riprap - Class 2	n/a	n/a	2,000	143,000	Limestone	2.11E-03	3.20E-04	3.3	0.5	0.12	0.02
09 - Channels and Grading Total	**3,500**	**104,380**	**6,375**	**273,475**				**3.9**	**0.6**	**0.13**	**0.02**
11 - Levees and Floodwalls											
Berm/Levee Fill	2,000	189,280	2,500	236,600	Limestone	2.11E-03	3.20E-04	4.1	0.6	0.20	0.03

Source: HDR. 2016. Draft Technical Memorandum: Constructability and Construction Considerations. Yolo Bypass Salmonid Habitat Restoration & Fish Passage Project - 10% Design. August 31.

Note:

Emissions assume that standard construction practice of watering is used.

Fremont weir demolition emissions assume that there is an additional "drop" from the mechanical dismemberment of the structure; method is consistent with CalEEMod 2016.3.1.

No emissions assumed to occur with wet excavation activities because spoils would be waterlogged.

Density

1.25 tons per cubic yard

Note: CalEEMod assumes haul trucks can handle 20 tons or 16 cy.

Number of Drops

2 drops per truck *(one drop at borrow site and one drop at dam site)*

Dust Control

61% reduction from watering at least 3 times per day

Source: CalEEMod

Conversion

2,000 pounds per ton

Southern Water Control Structure
Fugitive Dust Emissions - Grading

Equations (AP-42, Chapter 11.9):

$TSP = 0.040(S)^{2.5}$ and $PM15 = 0.051(S)^{2.0}$

where:
S = mean vehicle speed, miles per hour

Scaling Factors

PM10	0.60	(multiply the 15-micron equation by this fraction to determine emissions)
PM2.5	0.031	(multiply the TSP equation by this fraction to determine emissions)

Emission Factors

PM10	1.54	lb/VMT
PM2.5	0.17	lb/VMT

Mileage Calculation (CalEEMod 2016.3.1 User's Guide, Appendix A):

$$VMT = As/Wb \times 43{,}560\left(\frac{sqft}{acre}\right)/5{,}280\left(\frac{ft}{mile}\right)$$

Table L1-647. Maximum Daily Disturbed Area

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Table L1-648. Grading Emissions (Southern Water Control Structure)

Activity	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Crew/ Equipment Quantity	Estimated Duration, Days	Graded Acres per Day	Total Graded Area (As)	VMT per year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
02 - Relocations												
Levee O&M Road Regrading (6" AB)	12' Blade Grader	Graders	1	1	6	0.5	3.0	2.1	0.5	0.1	0.0	0.0
	4000 gallon Water Truck	n/a - onroad	1	1	6	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	1	1	6	--	--	--	--	--	--	--
	16 CY 3 Axle Dump Truck	n/a - onroad	5	1	6	--	--	--	--	--	--	--
			Levee O&M Road Regrading (6" AB) Total			**0.5**	**3.0**	**2.1**	**0.5**	**0.1**	**0.0**	**0.0**
09 - Channels and Canals												
Clearing and Grubbing	1.5 CY Front End Loader Crawler	Crawler Tractors	1	2	17	1.0	17.0	11.7	1.1	0.1	0.0	0.0
	Trailer Mounted Brush Chipper	Shredders	1	2	17	--	--	--	--	--	--	--
	Chainsaw	Chainsaws	1	2	17	--	--	--	--	--	--	--
	4000 gallon Water Truck	n/a - onroad	1	2	17	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	6	2	17	--	--	--	--	--	--	--
	16 CY 3 Axle Dump Truck	n/a - onroad	1	2	17	--	--	--	--	--	--	--
			Clearing and Grubbing Total			**1.0**	**17.0**	**11.7**	**1.1**	**0.1**	**0.0**	**0.0**

Table L1-648. Grading Emissions (Southern Water Control Structure)

Activity	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Crew/ Equipment Quantity	Estimated Duration, Days	Graded Acres per Day	Total Graded Area (As)	VMT per year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
Excavation/Grading (Dry Conditions)	300 HP Dozer	Rubber Tired Dozers	1	1	30	0.5	15.0	10.3	0.5	0.1	0.0	0.0
	21 CY Scrapers	Scrapers	4	1	30	4.0	120.0	82.5	4.2	0.5	0.1	0.0
	12' Blade Grader	Graders	1	1	30	0.5	15.0	10.3	0.5	0.1	0.0	0.0
	4000 gallon Water Truck	n/a - onroad	1	1	30	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	7	1	30	--	--	--	--	--	--	--
			Excavation/Grading (Dry Conditions) Total			**5.0**	**150.0**	**103.1**	**5.3**	**0.6**	**0.1**	**0.0**
Riprap - Class 2	2.5 CY Hydraulic Excavator	Excavators	2	2	72	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	300 HP Dozer Crawler	Crawler Tractors	1	2	72	1.0	72.0	49.5	1.1	0.1	0.0	0.0
	16 CY 3 Axle Dump Truck	n/a - onroad	23	2	72	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	5	2	72	--	--	--	--	--	--	--
				Riprap - Class 2 Total		**1.0**	**72.0**	**49.5**	**1.1**	**0.1**	**0.0**	**0.0**
11 - Levees and Floodwalls												
Berm/Levee Fill	300 HP Dozer	Rubber Tired Dozers	1	2	95	1.0	95.0	65.3	1.1	0.1	0.1	0.0
	4000 gallon Water Truck	n/a - onroad	1	2	95	--	--	--	--	--	--	--
	10 TN Smooth Roller	Rollers	1	2	95	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	3	2	95	--	--	--	--	--	--	--
				Berm/Levee Fill Total		**1.0**	**95.0**	**65.3**	**1.1**	**0.1**	**0.1**	**0.0**
19 - Buildings, Grounds, and Utilities												
CMU Building and Earthwork Pad Constructio	165 HP Dozer	Rubber Tired Dozers	1	1	30	0.5	15.0	10.3	0.5	0.1	0.0	0.0
	Scraper	Scrapers	1	1	30	1.0	30.0	20.6	1.1	0.1	0.0	0.0
	Motor Grader	Graders	1	1	30	0.5	15.0	10.3	0.5	0.1	0.0	0.0
	Compactor	Rollers	1	1	30	--	--	--	--	--	--	--
	4000 gallon Water Truck	n/a - onroad	1	1	30	--	--	--	--	--	--	--
	10 TN Smooth Roller	Rollers	1	1	30	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	7	1	30	--	--	--	--	--	--	--
	Concrete Pump Boom Truck Mounted	Pumps	1	1	30	--	--	--	--	--	--	--
	2.5" Dia. Concrete Vibrator	Plate Compactors	1	1	30	--	--	--	--	--	--	--
	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	1	30	--	--	--	--	--	--	--
	Concrete Mixer Truck	n/a - onroad	1	1	30	--	--	--	--	--	--	--
				CMU Building and Earthwork Pad Construction Total		**2.0**	**60.0**	**41.3**	**2.1**	**0.2**	**0.0**	**0.0**

Blade Width
12 feet

Scraper Speed
7.1 mph (AP-42 default)

Conversions
43,560 square feet per acre
5,280 feet per mile
2,000 pounds per ton

Dust Control
61% reduction from watering at least 3 times per day
Source: CalEEMod

Southern Water Control Structure
Fugitive Dust Emissions - Bulldozing

Equations (AP-42, Chapter 11.9):

$$TSP = \frac{5.7(s)^{1.2}}{M^{1.3}} \quad \text{and} \quad PM15 = \frac{1.0(s)^{1.5}}{M^{1.4}}$$

where:

s = silt content	6.9 %	(AP-42, Table 11.9-3, Overburden)
M = material moisture content	7.9 %	(AP-42, Table 11.9-3, Overburden)

Scaling Factors

PM10	0.75	(multiply the 15-micron equation by this fraction to determine emissions)
PM2.5	0.105	(multiply the TSP equation by this fraction to determine emissions)

Emission Factors

PM10	0.75	lb/hr
PM2.5	0.41	lb/hr

Table L1-649. Bulldozing Emissions (Southern Water Control Structure)

Activity	Crew / Equipment	Equipment Quantity per Crew	Crew/ Equipment Quantity	Estimated Duration, Days	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
09 - Channels and Canals								
Excavation/Grading (Dry Conditions)	300 HP Dozer	1	1	30	2.35	1.29	0.04	0.02
11 - Levees and Floodwalls								
Berm/Levee Fill	300 HP Dozer	1	2	95	4.70	2.58	0.22	0.12
19 - Buildings, Grounds, and Utilities								
CMU Building and Earthwork Pad Construct	165 HP Dozer	1	1	30	2.35	1.29	0.04	0.02

Operating Schedule
8 hr/day

Conversion
2,000 pounds per ton

Dust Control
61% reduction from watering at least 3 times per day
Source: CalEEMod

Southern Water Control Structure
Fugitive Dust Emissions - Unpaved Road Dust (Haul Roads)

Equation (AP-42, Chapter 13.2.2):

$$E = k(s/12)^a(W/3)^b$$

where:
E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)

Variables

k (PM10)	1.5	
k (PM2.5)	0.15	
a	0.9	
b	0.45	
s, %	4.3	(CalEEMod default)
W, tons	180	loaded
	74	unloaded

Table L1-650. Unpaved Road Dust Emission Factors (lb/VMT)

Weight	PM10	PM2.5
Loaded	3.76	0.38
Unloaded	2.52	0.25
Average	3.14	0.31

Table L1-651. Unpaved Road Dust Emissions (Southern Water Control Structure)

Activity	Total Daily Output	Total Quantity	Unit	Estimated Duration, Days	VMT per Day	VMT per Year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
15 - Floodway Control and Diversion Structures										
Excavation (Wet Conditions)	1,800	25,960	CY	15	92	1,300	112.7	11.3	0.8	0.08

Notes:
Assumes payload of each truck is 100 tons.
Half of truck trips will be loaded and other half will be unloaded.
Only includes materials that will be transported to spoil site by dump trucks.

Distance to borrow area

2 miles (spoils site located within a 1-mile radius of the project access point(s); average of 1 mile travel distance from point of excavation)

Density

1.25 tons/cy

Note: CalEEMod assumes haul trucks can handle 20 tons or 16 cy.

Dust Control

61% reduction from watering at least 3 times per day

Source: CalEEMod

Mitigated Offroad Exhaust Emissions Summary

Table L1-652. Maximum Daily Mitigated Offroad Construction Equipment Emissions (Southern Water Control Structure)

Phase	ROG lbs/day	NOx lbs/day	CO lbs/day	SO2 lbs/day	PM10 lbs/day	PM2.5 lbs/day
02 - Relocations	0.60	13.08	5.43	0.04	0.21	0.09
09 - Channels and Canals	21.53	115.82	75.14	0.44	1.83	0.92
11 - Levees and Floodwalls	0.64	4.03	17.42	0.07	0.22	0.13
15 - Floodway Control and Diversion Structures	1.84	25.06	31.64	0.13	0.49	0.26
19 - Buildings, Grounds, and Utilities	1.30	11.64	34.58	0.11	0.46	0.26
20 -Permanent Operating Equipment	0.19	2.08	4.97	0.01	0.09	0.04
Peak Day Construction Exhaust Emissions Total	**23.06**	**145.45**	**124.19**	**0.63**	**2.55**	**1.31**
Percent Reduction (Compared to Unmitigated)	*-17%*	*-52%*	*-19%*	*-1%*	*-71%*	*-81%*

Notes:

Construction total will not add to the sum of each phase because not all tasks overlap on the same day.

Table L1-653. Annual Mitigated Offroad Construction Equipment Emissions (Southern Water Control Structure)

Phase	ROG tpy	NOx tpy	CO tpy	SO2 tpy	PM10 tpy	PM2.5 tpy	CO2e MT/yr
02 - Relocations	0.00	0.04	0.02	0.00	0.00	0.00	14.52
09 - Channels and Canals	0.39	4.17	2.65	0.01	0.06	0.03	1,558.10
11 - Levees and Floodwalls	0.03	0.19	0.83	0.00	0.01	0.01	306.95
15 - Floodway Control and Diversion Structures	0.03	0.34	0.57	0.00	0.01	0.01	274.98
19 - Buildings, Grounds, and Utilities	0.01	0.12	0.44	0.00	0.00	0.00	128.99
20 -Permanent Operating Equipment	0.00	0.02	0.07	0.00	0.00	0.00	17.96
Annual Construction Exhaust Emissions Total	**0.47**	**4.88**	**4.58**	**0.02**	**0.09**	**0.05**	**2,301.49**
Percent Reduction (Compared to Unmitigated)	*-40%*	*-49%*	*-15%*	*-1%*	*-66%*	*-78%*	*-3%*

Notes:

Total may not add exactly because of rounding.

Table L1-654. ROG Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
02 - Relocations													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.0565	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0255	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					1.3847	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
											Mobilization and Demobilization Subtotal		
2	Levee O&M Road Regrading (6" AB)	218,000	SF	12' Blade Grader	Graders	1	187	39,400	1	39,400	6	0.0246	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.3847	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	5	HHDT					5.1968	g/hr
											Levee O&M Road Regrading (6" AB) Subtotal		
3	Temporary Electrical Power	100	LF	Flatbed Truck	n/a - onroad	1	MHDT	1,500	1	1,500	1	2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					1.3847	g/hr
											Temporary Electrical Power Subtotal		
											02 - Relocations Total		
09 - Channels and Canals													
4	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.0565	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0255	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.3847	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
											Mobilization and Demobilization Subtotal		
5	Clearing and Grubbing	67	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	2	2	4	17	0.0337	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0754	g/hp-hr
				Chainsaw	Chainsaws	1	8					72.5633	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.3847	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					5.1968	g/hr
											Clearing and Grubbing Subtotal		
6	Excavation/Grading (Dry Conditions)	133,580	CY	300 HP Dozer	Rubber Tired Dozers	1	300	3,500	1	3,500	30	0.0304	g/hp-hr
				21 CY Scrapers	Scrapers	4	407					0.0282	g/hp-hr
				12' Blade Grader	Graders	1	187					0.0246	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.3847	g/hr
											Excavation/Grading (Dry Conditions) Subtotal		
7	Riprap - Class 2	153,590	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	2	2,000	72	0.0226	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0241	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					5.1968	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					1.3847	g/hr
											Riprap - Class 2 Subtotal		
8	Erosion Control Seeding	24	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	13	0.0311	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.3847	g/hr
											Erosion Control Seeding Subtotal		
											09 - Channels and Canals Total		
11 - Levees and Floodwalls													
9	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	-	2	2.0565	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0255	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.3847	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
											Mobilization and Demobilization Subtotal		

Table L1-654. ROG Exhaust Emissions from C

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
02 - Relocations																					
1	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.13	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Levee O&M Road Regrading (6" AB)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Temporary Electrical Power	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.09	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.22	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
09 - Channels and Canals																					
4	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.11	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Clearing and Grubbing	--	0.13	0.13	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.37	0.37	0.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	20.48	20.48	20.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.07	0.07	0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.29	0.29	0.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.18	0.18	0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**21.53**	**21.53**	**21.53**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	0.16	0.16	0.16	0.16	0.16	0.16	0.16	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.81	0.81	0.81	0.81	0.81	0.81	0.81	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.08	0.08	0.08	0.08	0.08	0.08	0.08	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.17	0.17	0.17	0.17	0.17	0.17	0.17	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**1.26**	**1.26**	**1.26**	**1.26**	**1.26**	**1.26**	**1.26**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
7	Riprap - Class 2	--	--	--	--	--	--	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	--
		--	--	--	--	--	--	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	--
		--	--	--	--	--	--	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22	--
		--	--	--	--	--	--	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	--
		--	**--**	**--**	**--**	**--**	**--**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**--**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.15**
		0.11	**21.53**	**21.53**	**21.53**	**1.26**	**1.26**	**6.38**	**6.38**	**6.38**	**6.38**	**6.38**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**5.12**	**0.15**
11 - Levees and Floodwalls																					
9	Mobilization and Demobilization	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.15**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-654. ROG Exhaust Emissions from C

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations										
1	Mobilization and Demobilization	--	--	0.04	--	--	--	--	--	0.0000
		--	--	0.05	--	--	--	--	--	0.0000
		--	--	0.05	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**0.13**	**--**	**--**	**--**	**--**	**--**	**0.0001**
2	Levee O&M Road Regrading (6" AB)	--	0.08	--	--	--	--	--	--	0.0002
		--	0.04	--	--	--	--	--	--	0.0001
		--	0.02	--	--	--	--	--	--	0.0001
		--	0.46	--	--	--	--	--	--	0.0014
		--	**0.60**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0018**
3	Temporary Electrical Power	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
		--	**0.60**	**0.13**	**--**	**--**	**--**	**--**	**--**	**0.0020**
09 - Channels and Canals										
4	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	0.0000
		0.05	--	--	--	--	--	--	--	0.0000
		0.02	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		0.11	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
5	Clearing and Grubbing	--	--	--	--	--	--	--	--	0.0011
		--	--	--	--	--	--	--	--	0.0032
		--	--	--	--	--	--	--	--	0.1740
		--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0025
		--	--	--	--	--	--	--	--	0.0016
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1830**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	--	--	--	--	0.0024
		--	--	--	--	--	--	--	--	0.0122
		--	--	--	--	--	--	--	--	0.0012
		--	--	--	--	--	--	--	--	0.0005
		--	--	--	--	--	--	--	--	0.0026
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0189**
7	Riprap - Class 2	--	--	--	--	--	--	--	--	0.0147
		--	--	--	--	--	--	--	--	0.0092
		--	--	--	--	--	--	--	--	0.1518
		--	--	--	--	--	--	--	--	0.0088
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1845**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0006
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0010**
		0.11	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.3874**
11 - Levees and Floodwalls										
9	Mobilization and Demobilization	--	0.04	--	--	--	--	--	--	0.0000
		--	0.05	--	--	--	--	--	--	0.0000
		--	0.07	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	--
		--	**0.15**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0002**

Table L1-654. ROG Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
10	Berm/Levee Fill	213,520	CY	300 HP Dozer	Rubber Tired Dozers	1	300	1,000	2	2,000	95	0.0304	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.0565	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0178	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.3847	g/hr
												Berm/Levee Fill Subtotal	
												11 - Levees and Floodwalls Total	
15 - Floodway Control and Diversion Structures													
11	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.0565	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0255	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.3847	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
12	Construction Site Dewatering (Temporary Coffer	93,000	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	78	2.0565	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0266	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.3847	g/hr
												Construction Site Dewatering (Temporary Cofferdam) Subtotal	
13	Construction Site Dewatering (Pumping)	-	-	6" Dia. Pump Engine Drive	Pumps	1	84	-	1	1	54	0.0818	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.3847	g/hr
												Construction Site Dewatering (Pumping) Subtotal	
14	Excavation (Wet Conditions)	25,960	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	1,800	1	1,800	15	0.0226	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0304	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0280	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	9	HHDT					5.1968	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.3847	g/hr
												Excavation (Wet Conditions) Subtotal	
15	Sheet Pile Wall	1,840	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	2	2.0565	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0266	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.3847	g/hr
												Sheet Pile Wall Subtotal	
16	Culvert Headwall	110	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	60	1	60	2	0.2845	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.3847	g/hr
												Culvert Headwall Subtotal	
17	Precast Box Culvert 10'x8' 30'	30	LF	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	100	1	100	1	0.0158	g/hp-hr
				Flatbed Truck	n/a - onroad	2	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.3847	g/hr
												Precast Box Culvert 10'x8' 30' Subtotal	
18	Water Control Structure	280	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	70	1	70	4	0.2845	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.3847	g/hr
												Water Control Structure Subtotal	
19	Inflatable Obermeyer Gates	3	EA	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	0.1	1	0.1	24	0.0158	g/hp-hr
				Haul Truck Oversize Transport	n/a - onroad	1	HHDT					5.1968	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.3847	g/hr
												Inflatable Obermeyer Gates Subtotal	
												15 - Floodway Control and Diversion Structures Total	
19 - Buildings, Grounds, and Utilities													
20	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.0565	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0255	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.3847	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-654. ROG Exhaust Emissions from C

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
10	Berm/Levee Fill	--	--	--	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
		--	--	--	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
		--	--	--	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
		--	--	--	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
		--	**--**	**--**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**
		--	**--**	**0.15**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**
15 - Floodway Control and Diversion Structures																					
11	Mobilization and Demobilization	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	
		--	--	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	0.05	--	--	
		--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**0.11**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.11**	**--**	**--**	
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.15	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**0.29**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	--	--	
		--	--	--	--	--	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**0.19**	**--**	**--**	**--**
14	Excavation (Wet Conditions)	--	--	--	--	--	0.17	0.17	--	--	0.17	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.32	0.32	--	--	0.32	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.16	0.16	--	--	0.16	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.82	0.82	--	--	0.82	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.17	0.17	--	--	0.17	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**1.65**	**1.65**	**--**	**--**	**1.65**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	0.15	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.29**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
16	Culvert Headwall	--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	0.07	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	0.15	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.26**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	--	--	--	--	0.13	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	0.07	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
18	Water Control Structure	--	--	--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.07	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.15	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.26**	**--**	**--**	**--**	**--**	**--**	**--**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.13	0.13	0.13	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.09	0.09	0.09	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	0.10	0.10	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.31**	**0.31**	**0.31**	**--**	**--**	**--**
		--	**--**	**--**	**--**	**0.11**	**1.65**	**1.65**	**0.29**	**0.19**	**1.84**	**0.48**	**0.45**	**0.49**	**0.45**	**0.51**	**0.51**	**0.51**	**0.11**	**--**	**--**
19 - Buildings, Grounds, and Utilities																					
20	Mobilization and Demobilization	0.04	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	
		0.05	--	--	--	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	
		0.02	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.11	**--**	**--**	**--**	**--**	**--**	**0.11**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-654. ROG Exhaust Emissions from C

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
10	Berm/Levee Fill	0.32	--	--	--	--	--	--	--	0.0153
		0.07	--	--	--	--	--	--	--	0.0034
		0.10	--	--	--	--	--	--	--	0.0047
		0.15	--	--	--	--	--	--	--	0.0070
		0.64	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0304**
		0.64	**0.15**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0305**
15 - Floodway Control and Diversion Structures										
11	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	--	0.0014
		--	--	--	--	--	--	--	--	0.0040
		--	--	--	--	--	--	--	--	0.0057
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0112**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.0033
		--	--	--	--	--	--	--	--	0.0020
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0053**
14	Excavation (Wet Conditions)	--	--	--	--	--	--	--	--	0.0013
		--	--	--	--	--	--	--	--	0.0024
		--	--	--	--	--	--	--	--	0.0012
		--	--	--	--	--	--	--	--	0.0062
		--	--	--	--	--	--	--	--	0.0013
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0124**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0003**
16	Culvert Headwall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0003**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
18	Water Control Structure	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0003
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0005**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	0.0015
		--	--	--	--	--	--	--	--	0.0011
		--	--	--	--	--	--	--	--	0.0012
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0038**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0339**
19 - Buildings, Grounds, and Utilities										
20	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**

Table L1-654. ROG Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
21	CMU Building and Earthwork Pad Construction	1	EA	165 HP Dozer	Rubber Tired Dozers	1	165	-	1	1	30	0.0328	g/hp-hr
				Scraper	Scrapers	1	367					0.0282	g/hp-hr
				Motor Grader	Graders	1	187					0.0246	g/hp-hr
				Compactor	Rollers	1	80					0.0259	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.0565	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0178	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.3847	g/hr
				Concrete Pump Boom Truck Mounted	Pumps	1	84					0.0818	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.2845	g/hp-hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0255	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	1	MHDT					2.0565	g/hr
											CMU Building and Earthwork Pad Construction Subtotal		
22	Concrete Duct Bank	40	CY	Concrete Pump Boom Truck Mounted	Pumps	1	84	60	1	60	1	0.0818	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.2845	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.3847	g/hr
											Concrete Duct Bank Subtotal		
											19 - Buildings, Grounds, and Utilities Total		
20 -Permanent Operating Equipment													
23	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.0565	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0255	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.3847	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
											Mobilization and Demobilization Subtotal		
24	Power, Electrical, & Mechanical Equipment	-	-	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-	1	1	30	0.0255	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.3847	g/hr
											Power, Electrical, & Mechanical Equipment Subtotal		
25	Communication Equipment	-	-	Pickup Truck Conventional	n/a - onroad	3	LDT2	-	1	1	12	1.3847	g/hr
											Communication Equipment Subtotal		
											20 -Permanent Operating Equipment Total		
GRAND TOTAL													

Table L1-654. ROG Exhaust Emissions from C

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
21	CMU Building and Earthwork Pad Construction	--	0.10	0.10	0.10	0.10	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.18	0.18	0.18	0.18	0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.08	0.08	0.08	0.08	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.05	0.05	0.05	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.17	0.17	0.17	0.17	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.12	0.12	0.12	0.12	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.05	0.05	0.05	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.90**	**0.90**	**0.90**	**0.90**	**0.90**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
22	Concrete Duct Bank	--	--	--	--	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**0.40**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.11	**0.90**	**0.90**	**0.90**	**1.30**	**0.90**	**0.11**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
20 -Permanent Operating Equipment																					
23	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.11**	**--**	**--**	**--**	**--**
24	Power, Electrical, & Mechanical Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05	0.05	0.05	0.05
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.07	0.07	0.07	0.07
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.12**	**0.12**	**0.12**	**0.12**
25	Communication Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.07
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.07**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.11**	**0.12**	**0.12**	**0.12**	**0.19**
GRAND TOTAL		**0.43**	**22.42**	**22.58**	**23.06**	**3.30**	**4.44**	**8.78**	**7.31**	**7.22**	**8.87**	**7.50**	**6.22**	**6.25**	**6.22**	**6.27**	**6.38**	**6.39**	**5.99**	**5.88**	**0.98**

Table L1-654. ROG Exhaust Emissions from C

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
21	CMU Building and Earthwork Pad Construction	--	--	--	--	--	--	--	--	0.0014
		--	--	--	--	--	--	--	--	0.0027
		--	--	--	--	--	--	--	--	0.0012
		--	--	--	--	--	--	--	--	0.0005
		--	--	--	--	--	--	--	--	0.0005
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0026
		--	--	--	--	--	--	--	--	0.0018
		--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0005
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0134**
22	Concrete Duct Bank	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0002**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0137**
20 -Permanent Operating Equipment										
23	Mobilization and Demobilization	--	0.04	--	--	--	--	--	--	0.0000
		--	0.05	--	--	--	--	--	--	0.0000
		--	0.02	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**0.11**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
24	Power, Electrical, & Mechanical Equipment	0.05	--	--	--	--	--	--	--	0.0007
		0.07	--	--	--	--	--	--	--	0.0011
		0.12	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0018**
25	Communication Equipment	0.07	--	--	--	--	--	--	--	0.0004
		0.07	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0004**
		0.19	**0.11**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0023**
GRAND TOTAL		**0.94**	**0.86**	**0.13**	**--**	**--**	**--**	**--**	**--**	**0.4699**

Table L1-655. NOx Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
02 - Relocations													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	62.8403	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.5411	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					1.2324	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
2	Levee O&M Road Regrading (6" AB)	218,000	SF	12' Blade Grader	Graders	1	187	39,400	1	39,400	6	0.1067	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.2324	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	5	HHDT					131.5280	g/hr
												Levee O&M Road Regrading (6" AB) Subtotal	
3	Temporary Electrical Power	100	LF	Flatbed Truck	n/a - onroad	1	MHDT	1,500	1	1,500	1	62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					1.2324	g/hr
												Temporary Electrical Power Subtotal	
												02 - Relocations Total	
09 - Channels and Canals													
4	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	62.8403	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.5411	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.2324	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
5	Clearing and Grubbing	67	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	2	2	4	17	0.5867	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.7727	g/hp-hr
				Chainsaw	Chainsaws	1	8					1.2873	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.2324	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					131.5280	g/hr
												Clearing and Grubbing Subtotal	
6	Excavation/Grading (Dry Conditions)	133,580	CY	300 HP Dozer	Rubber Tired Dozers	1	300	3,500	1	3,500	30	0.1077	g/hp-hr
				21 CY Scrapers	Scrapers	4	407					0.1282	g/hp-hr
				12' Blade Grader	Graders	1	187					0.1067	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.2324	g/hr
												Excavation/Grading (Dry Conditions) Subtotal	
7	Riprap - Class 2	153,590	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	2	2,000	72	0.1016	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.1129	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					131.5280	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					1.2324	g/hr
												Riprap - Class 2 Subtotal	
8	Erosion Control Seeding	24	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	13	0.5090	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.2324	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
11 - Levees and Floodwalls													
9	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	-	2	62.8403	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.5411	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.2324	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-655. NOx Exhaust Emissions from O

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
02 - Relocations																					
1	Mobilization and Demobilization	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		2.11	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Levee O&M Road Regrading (6" AB)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Temporary Electrical Power	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1.15	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		3.26	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
09 - Channels and Canals																					
4	Mobilization and Demobilization	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		2.08	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Clearing and Grubbing	--	2.28	2.28	2.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	3.82	3.82	3.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.36	0.36	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	2.22	2.22	2.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.26	0.26	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	4.64	4.64	4.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**13.57**	**13.57**	**13.57**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	0.57	0.57	0.57	0.57	0.57	0.57	0.57	--	--	--	--	--	--	--	--	--
		--	--	--	--	3.68	3.68	3.68	3.68	3.68	3.68	3.68	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.35	0.35	0.35	0.35	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--
		--	--	--	--	1.11	1.11	1.11	1.11	1.11	1.11	1.11	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.15	0.15	0.15	0.15	0.15	0.15	0.15	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**5.86**	**5.86**	**5.86**	**5.86**	**5.86**	**5.86**	**5.86**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
7	Riprap - Class 2	--	--	--	--	--	--	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	--
		--	--	--	--	--	--	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	--
		--	--	--	--	--	--	106.71	106.71	106.71	106.71	106.71	106.71	106.71	106.71	106.71	106.71	106.71	106.71	106.71	--
		--	--	--	--	--	--	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	--
		--	**--**	**--**	**--**	**--**	**--**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**--**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.87
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.09
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.96**
		2.08	**13.57**	**13.57**	**13.57**	**5.86**	**5.86**	**115.82**	**115.82**	**115.82**	**115.82**	**115.82**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**109.96**	**0.96**
11 - Levees and Floodwalls																					
9	Mobilization and Demobilization	--	--	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**2.13**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-655. NOx Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations										
1	Mobilization and Demobilization	--	--	1.11	--	--	--	--	--	0.0011
		--	--	0.95	--	--	--	--	--	0.0010
		--	--	0.04	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**2.11**	**--**	**--**	**--**	**--**	**--**	**0.0021**
2	Levee O&M Road Regrading (6" AB)	--	0.35	--	--	--	--	--	--	0.0011
		--	1.11	--	--	--	--	--	--	0.0033
		--	0.02	--	--	--	--	--	--	0.0001
		--	11.60	--	--	--	--	--	--	0.0348
		--	**13.08**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0392**
3	Temporary Electrical Power	--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0006**
		--	**13.08**	**2.11**	**--**	**--**	**--**	**--**	**--**	**0.0419**
09 - Channels and Canals										
4	Mobilization and Demobilization	1.11	--	--	--	--	--	--	--	0.0011
		0.95	--	--	--	--	--	--	--	0.0010
		0.02	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		2.08	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0021**
5	Clearing and Grubbing	--	--	--	--	--	--	--	--	0.0193
		--	--	--	--	--	--	--	--	0.0324
		--	--	--	--	--	--	--	--	0.0031
		--	--	--	--	--	--	--	--	0.0188
		--	--	--	--	--	--	--	--	0.0022
		--	--	--	--	--	--	--	--	0.0394
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1154**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	--	--	--	--	0.0086
		--	--	--	--	--	--	--	--	0.0552
		--	--	--	--	--	--	--	--	0.0053
		--	--	--	--	--	--	--	--	0.0166
		--	--	--	--	--	--	--	--	0.0023
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0879**
7	Riprap - Class 2	--	--	--	--	--	--	--	--	0.0663
		--	--	--	--	--	--	--	--	0.0430
		--	--	--	--	--	--	--	--	3.8415
		--	--	--	--	--	--	--	--	0.0078
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**3.9586**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	0.0057
		--	--	--	--	--	--	--	--	0.0006
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0062**
		2.08	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.1702**
11 - Levees and Floodwalls										
9	Mobilization and Demobilization	--	1.11	--	--	--	--	--	--	0.0011
		--	0.95	--	--	--	--	--	--	0.0010
		--	0.07	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	--
		--	**2.13**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0021**

Table L1-655. NOx Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
10	Berm/Levee Fill	213,520	CY	300 HP Dozer	Rubber Tired Dozers	1	300	1,000	2	2,000	95	0.1077	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					62.8403	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0977	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.2324	g/hr
												Berm/Levee Fill Subtotal	
												11 - Levees and Floodwalls Total	
15 - Floodway Control and Diversion Structures													
11	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	62.8403	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.5411	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.2324	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
12	Construction Site Dewatering (Temporary Coffer	93,000	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	78	62.8403	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.1311	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.2324	g/hr
												Construction Site Dewatering (Temporary Cofferdam) Subtotal	
13	Construction Site Dewatering (Pumping)	-	-	6" Dia. Pump Engine Drive	Pumps	1	84	-	1	1	54	0.9989	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.2324	g/hr
												Construction Site Dewatering (Pumping) Subtotal	
14	Excavation (Wet Conditions)	25,960	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	1,800	1	1,800	15	0.1016	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.1077	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0989	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	9	HHDT					131.5280	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.2324	g/hr
												Excavation (Wet Conditions) Subtotal	
15	Sheet Pile Wall	1,840	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	2	62.8403	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.1311	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.2324	g/hr
												Sheet Pile Wall Subtotal	
16	Culvert Headwall	110	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	60	1	60	2	1.7813	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.2324	g/hr
												Culvert Headwall Subtotal	
17	Precast Box Culvert 10'x8' 30'	30	LF	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	100	1	100	1	0.0772	g/hp-hr
				Flatbed Truck	n/a - onroad	2	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.2324	g/hr
												Precast Box Culvert 10'x8' 30' Subtotal	
18	Water Control Structure	280	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	70	1	70	4	1.7813	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.2324	g/hr
												Water Control Structure Subtotal	
19	Inflatable Obermeyer Gates	3	EA	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	0.1	1	0.1	24	0.0772	g/hp-hr
				Haul Truck Oversize Transport	n/a - onroad	1	HHDT					131.5280	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.2324	g/hr
												Inflatable Obermeyer Gates Subtotal	
												15 - Floodway Control and Diversion Structures Total	
19 - Buildings, Grounds, and Utilities													
20	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	62.8403	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.5411	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.2324	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-655. NOx Exhaust Emissions from O

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
10	Berm/Levee Fill	--	--	--	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
		--	--	--	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22	2.22
		--	--	--	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
		--	--	--	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
		--	**--**	**--**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**
		--	**--**	**2.13**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**	**4.03**
15 - Floodway Control and Diversion Structures																					
11	Mobilization and Demobilization	--	--	--	--	1.11	--	--	--	--	--	--	--	--	--	--	--	1.11	--	--	
		--	--	--	--	0.95	--	--	--	--	--	--	--	--	--	--	--	0.95	--	--	
		--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**2.08**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.08**	**--**	**--**	
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	1.11	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.51	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.13	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**1.75**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	--	--	--
		--	--	--	--	--	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.55**	**1.55**	**1.55**	**1.55**	**1.55**	**1.55**	**1.55**	**1.55**	**1.55**	**--**	**--**	**--**
14	Excavation (Wet Conditions)	--	--	--	--	--	0.77	0.77	--	--	0.77	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	1.14	1.14	--	--	1.14	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.57	0.57	--	--	0.57	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	20.88	20.88	--	--	20.88	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.15	0.15	--	--	0.15	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**23.51**	**23.51**	**--**	**--**	**23.51**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	--	--	1.11	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	0.51	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	0.13	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.75**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
16	Culvert Headwall	--	--	--	--	--	--	--	--	--	--	--	0.25	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	2.22	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	0.13	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.60**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	--	--	--	--	0.61	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	2.22	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	0.09	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.92**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
18	Water Control Structure	--	--	--	--	--	--	--	--	--	--	--	--	--	0.25	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	2.22	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.13	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.60**	**--**	**--**	**--**	**--**	**--**	**--**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	--	--	--	--	--		0.61	0.61	0.61	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--		2.32	2.32	2.32	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--		0.09	0.09	0.09	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**3.02**	**3.02**	**3.02**	**--**	**--**	**--**
		--	**--**	**--**	**--**	**2.08**	**23.51**	**23.51**	**1.75**	**1.55**	**25.06**	**3.29**	**4.14**	**4.46**	**4.14**	**4.56**	**4.56**	**4.56**	**2.08**	**--**	**--**
19 - Buildings, Grounds, and Utilities																					
20	Mobilization and Demobilization	1.11	--	--	--	--	--	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.95	--	--	--	--	--	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.02	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		2.08	**--**	**--**	**--**	**--**	**--**	**2.08**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-655. NOx Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
10	Berm/Levee Fill	1.14	--	--	--	--	--	--	--	0.0542
		2.22	--	--	--	--	--	--	--	0.1053
		0.54	--	--	--	--	--	--	--	0.0257
		0.13	--	--	--	--	--	--	--	0.0062
		4.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1913**
		4.03	**2.13**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1935**
15 - Floodway Control and Diversion Structures										
11	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0011
		--	--	--	--	--	--	--	--	0.0010
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0021**
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	--	0.0432
		--	--	--	--	--	--	--	--	0.0199
		--	--	--	--	--	--	--	--	0.0051
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0682**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.0400
		--	--	--	--	--	--	--	--	0.0018
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0417**
14	Excavation (Wet Conditions)	--	--	--	--	--	--	--	--	0.0058
		--	--	--	--	--	--	--	--	0.0086
		--	--	--	--	--	--	--	--	0.0043
		--	--	--	--	--	--	--	--	0.1566
		--	--	--	--	--	--	--	--	0.0011
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1763**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	0.0011
		--	--	--	--	--	--	--	--	0.0005
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0017**
16	Culvert Headwall	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0022
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0026**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0011
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0015**
18	Water Control Structure	--	--	--	--	--	--	--	--	0.0005
		--	--	--	--	--	--	--	--	0.0044
		--	--	--	--	--	--	--	--	0.0003
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0052**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	0.0073
		--	--	--	--	--	--	--	--	0.0278
		--	--	--	--	--	--	--	--	0.0010
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0362**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.3356**
19 - Buildings, Grounds, and Utilities										
20	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0011
		--	--	--	--	--	--	--	--	0.0010
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0021**

Table L1-655. NOx Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
21	CMU Building and Earthwork Pad Construction	1	EA	165 HP Dozer	Rubber Tired Dozers	1	165	-	1	1	30	0.1098	g/hp-hr
				Scraper	Scrapers	1	367					0.1282	g/hp-hr
				Motor Grader	Graders	1	187					0.1067	g/hp-hr
				Compactor	Rollers	1	80					0.5088	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					62.8403	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0977	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.2324	g/hr
				Concrete Pump Boom Truck Mounted	Pumps	1	84					0.9989	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					1.7813	g/hp-hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.5411	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	1	MHDT					62.8403	g/hr
											CMU Building and Earthwork Pad Construction Subtotal		
22	Concrete Duct Bank	40	CY	Concrete Pump Boom Truck Mounted	Pumps	1	84	60	1	60	1	0.9989	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					1.7813	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.2324	g/hr
											Concrete Duct Bank Subtotal		
										19 - Buildings, Grounds, and Utilities Total			
20 -Permanent Operating Equipment													
23	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	62.8403	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.5411	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					1.2324	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
										Mobilization and Demobilization Subtotal			
24	Power, Electrical, & Mechanical Equipment	-	-	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-	1	1	30	0.5411	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					1.2324	g/hr
										Power, Electrical, & Mechanical Equipment Subtotal			
25	Communication Equipment	-	-	Pickup Truck Conventional	n/a - onroad	3	LDT2	-	1	1	12	1.2324	g/hr
										Communication Equipment Subtotal			
										20 -Permanent Operating Equipment Total			
GRAND TOTAL													

Table L1-655. NOx Exhaust Emissions from O

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
21	CMU Building and Earthwork Pad Construction	--	0.32	0.32	0.32	0.32	0.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.83	0.83	0.83	0.83	0.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.35	0.35	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.72	0.72	0.72	0.72	0.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.11	1.11	1.11	1.11	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.27	0.27	0.27	0.27	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.15	0.15	0.15	0.15	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.48	1.48	1.48	1.48	1.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.25	0.25	0.25	0.25	0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.95	0.95	0.95	0.95	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.11	1.11	1.11	1.11	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**7.54**	**7.54**	**7.54**	**7.54**	**7.54**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
22	Concrete Duct Bank	--	--	--	--	1.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	2.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**4.10**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		2.08	**7.54**	**7.54**	**7.54**	**11.64**	**7.54**	**2.08**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
20 -Permanent Operating Equipment																					
23	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.11	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.95	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.08**	**--**	**--**	**--**	**--**
24	Power, Electrical, & Mechanical Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.95	0.95	0.95	0.95
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.07	0.07	0.07	0.07
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.02**	**1.02**	**1.02**	**1.02**
25	Communication Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.07
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.07**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.08**	**1.02**	**1.02**	**1.02**	**1.08**
GRAND TOTAL		**7.43**	**21.12**	**23.24**	**25.14**	**23.62**	**40.95**	**145.45**	**121.60**	**121.40**	**144.91**	**123.15**	**118.13**	**118.45**	**118.13**	**118.55**	**120.64**	**119.57**	**117.09**	**115.01**	**6.07**

Table L1-655. NOx Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
21	CMU Building and Earthwork Pad Construction	--	--	--	--	--	--	--	--	0.0048
		--	--	--	--	--	--	--	--	0.0124
		--	--	--	--	--	--	--	--	0.0053
		--	--	--	--	--	--	--	--	0.0108
		--	--	--	--	--	--	--	--	0.0166
		--	--	--	--	--	--	--	--	0.0041
		--	--	--	--	--	--	--	--	0.0023
		--	--	--	--	--	--	--	--	0.0222
		--	--	--	--	--	--	--	--	0.0038
		--	--	--	--	--	--	--	--	0.0143
		--	--	--	--	--	--	--	--	0.0166
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1132**
22	Concrete Duct Bank	--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0011
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0020**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1173**
20 -Permanent Operating Equipment										
23	Mobilization and Demobilization	--	1.11	--	--	--	--	--	--	0.0011
		--	0.95	--	--	--	--	--	--	0.0010
		--	0.02	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**2.08**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0021**
24	Power, Electrical, & Mechanical Equipment	0.95	--	--	--	--	--	--	--	0.0143
		0.07	--	--	--	--	--	--	--	0.0010
		1.02	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0153**
25	Communication Equipment	0.07	--	--	--	--	--	--	--	0.0004
		0.07	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0004**
		1.08	**2.08**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0178**
GRAND TOTAL		**7.20**	**17.29**	**2.11**	**--**	**--**	**--**	**--**	**--**	**4.8763**

Table L1-656. CO Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
02 - Relocations													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	10.5648	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					12.4711	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
2	Levee O&M Road Regrading (6" AB)	218,000	SF	12' Blade Grader	Graders	1	187	39,400	1	39,400	6	0.6411	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					12.4711	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	5	HHDT					33.0182	g/hr
												Levee O&M Road Regrading (6" AB) Subtotal	
3	Temporary Electrical Power	100	LF	Flatbed Truck	n/a - onroad	1	MHDT	1,500	1	1,500	1	10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					12.4711	g/hr
												Temporary Electrical Power Subtotal	
												02 - Relocations Total	
09 - Channels and Canals													
4	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	10.5648	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					12.4711	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
5	Clearing and Grubbing	67	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	2	2	4	17	2.2674	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					1.1116	g/hp-hr
				Chainsaw	Chainsaws	1	8					146.1724	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					12.4711	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					33.0182	g/hr
												Clearing and Grubbing Subtotal	
6	Excavation/Grading (Dry Conditions)	133,580	CY	300 HP Dozer	Rubber Tired Dozers	1	300	3,500	1	3,500	30	0.6274	g/hp-hr
				21 CY Scrapers	Scrapers	4	407					0.7376	g/hp-hr
				12' Blade Grader	Graders	1	187					0.6411	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					12.4711	g/hr
												Excavation/Grading (Dry Conditions) Subtotal	
7	Riprap - Class 2	153,590	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	2	2,000	72	0.5975	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.6597	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					33.0182	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					12.4711	g/hr
												Riprap - Class 2 Subtotal	
8	Erosion Control Seeding	24	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	13	1.9153	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					12.4711	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
11 - Levees and Floodwalls													
9	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	-	2	10.5648	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					12.4711	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-656. CO Exhaust Emissions from Of

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
02 - Relocations																					
1	Mobilization and Demobilization	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		3.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		4.28	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Levee O&M Road Regrading (6" AB)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Temporary Electrical Power	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.63	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		4.90	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
09 - Channels and Canals																					
4	Mobilization and Demobilization	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		3.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		4.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Clearing and Grubbing	--	8.80	8.80	8.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	5.49	5.49	5.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	41.25	41.25	41.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.37	0.37	0.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	2.64	2.64	2.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.16	1.16	1.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**59.71**	**59.71**	**59.71**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	3.32	3.32	3.32	3.32	3.32	3.32	3.32	--	--	--	--	--	--	--	--	--
		--	--	--	--	21.18	21.18	21.18	21.18	21.18	21.18	21.18	--	--	--	--	--	--	--	--	--
		--	--	--	--	2.11	2.11	2.11	2.11	2.11	2.11	2.11	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.19	0.19	0.19	0.19	0.19	0.19	0.19	--	--	--	--	--	--	--	--	--
		--	--	--	--	1.54	1.54	1.54	1.54	1.54	1.54	1.54	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**28.34**	**28.34**	**28.34**	**28.34**	**28.34**	**28.34**	**28.34**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
7	Riprap - Class 2	--	--	--	--	--	--	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	--
		--	--	--	--	--	--	6.98	6.98	6.98	6.98	6.98	6.98	6.98	6.98	6.98	6.98	6.98	6.98	6.98	--
		--	--	--	--	--	--	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	26.79	--
		--	--	--	--	--	--	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	--
		--	**--**	**--**	**--**	**--**	**--**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**--**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.28
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.88
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.16**
		4.06	**59.71**	**59.71**	**59.71**	**28.34**	**28.34**	**75.14**	**75.14**	**75.14**	**75.14**	**75.14**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**	**4.16**
11 - Levees and Floodwalls																					
9	Mobilization and Demobilization	--	--	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	3.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**4.50**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-656. CO Exhaust Emissions from Of

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations										
1	Mobilization and Demobilization	--	--	0.19	--	--	--	--	--	0.0002
		--	--	3.65	--	--	--	--	--	0.0036
		--	--	0.44	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	--
		--	**--**	**4.28**	**--**	**--**	**--**	**--**	**--**	**0.0043**
2	Levee O&M Road Regrading (6" AB)	--	2.11	--	--	--	--	--	--	0.0063
		--	0.19	--	--	--	--	--	--	0.0006
		--	0.22	--	--	--	--	--	--	0.0007
		--	2.91	--	--	--	--	--	--	0.0087
		--	**5.43**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0163**
3	Temporary Electrical Power	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0002
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0003**
		--	**5.43**	**4.28**	**--**	**--**	**--**	**--**	**--**	**0.0209**
09 - Channels and Canals										
4	Mobilization and Demobilization	0.19	--	--	--	--	--	--	--	0.0002
		3.65	--	--	--	--	--	--	--	0.0036
		0.22	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	--
		4.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0041**
5	Clearing and Grubbing	--	--	--	--	--	--	--	--	0.0748
		--	--	--	--	--	--	--	--	0.0467
		--	--	--	--	--	--	--	--	0.3506
		--	--	--	--	--	--	--	--	0.0032
		--	--	--	--	--	--	--	--	0.0224
		--	--	--	--	--	--	--	--	0.0099
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.5075**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	--	--	--	--	0.0498
		--	--	--	--	--	--	--	--	0.3177
		--	--	--	--	--	--	--	--	0.0317
		--	--	--	--	--	--	--	--	0.0028
		--	--	--	--	--	--	--	--	0.0231
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.4251**
7	Riprap - Class 2	--	--	--	--	--	--	--	--	0.3900
		--	--	--	--	--	--	--	--	0.2513
		--	--	--	--	--	--	--	--	0.9643
		--	--	--	--	--	--	--	--	0.0792
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.6848**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	0.0213
		--	--	--	--	--	--	--	--	0.0057
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0270**
		4.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.6485**
11 - Levees and Floodwalls										
9	Mobilization and Demobilization	--	0.19	--	--	--	--	--	--	0.0002
		--	3.65	--	--	--	--	--	--	0.0036
		--	0.66	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	--
		--	**4.50**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0045**

Table L1-656. CO Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
10	Berm/Levee Fill	213,520	CY	300 HP Dozer	Rubber Tired Dozers	1	300	1,000	2	2,000	95	0.6274	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					10.5648	g/hr
				10 TN Smooth Roller	Rollers	1	157					1.6405	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					12.4711	g/hr
												Berm/Levee Fill Subtotal	
												11 - Levees and Floodwalls Total	
15 - Floodway Control and Diversion Structures													
11	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	10.5648	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					12.4711	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
12	Construction Site Dewatering (Temporary Coffer	93,000	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	78	10.5648	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.7660	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					12.4711	g/hr
												Construction Site Dewatering (Temporary Cofferdam) Subtotal	
13	Construction Site Dewatering (Pumping)	-	-	6" Dia. Pump Engine Drive	Pumps	1	84	-	1	1	54	2.3329	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					12.4711	g/hr
												Construction Site Dewatering (Pumping) Subtotal	
14	Excavation (Wet Conditions)	25,960	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	1,800	1	1,800	15	0.5975	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.6274	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					1.6565	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	9	HHDT					33.0182	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					12.4711	g/hr
												Excavation (Wet Conditions) Subtotal	
15	Sheet Pile Wall	1,840	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	2	10.5648	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.7660	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					12.4711	g/hr
												Sheet Pile Wall Subtotal	
16	Culvert Headwall	110	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	60	1	60	2	1.4921	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					12.4711	g/hr
												Culvert Headwall Subtotal	
17	Precast Box Culvert 10'x8' 30'	30	LF	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	100	1	100	1	0.4386	g/hp-hr
				Flatbed Truck	n/a - onroad	2	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					12.4711	g/hr
												Precast Box Culvert 10'x8' 30' Subtotal	
18	Water Control Structure	280	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	70	1	70	4	1.4921	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					12.4711	g/hr
												Water Control Structure Subtotal	
19	Inflatable Obermeyer Gates	3	EA	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	0.1	1	0.1	24	0.4386	g/hp-hr
				Haul Truck Oversize Transport	n/a - onroad	1	HHDT					33.0182	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					12.4711	g/hr
												Inflatable Obermeyer Gates Subtotal	
												15 - Floodway Control and Diversion Structures Total	
19 - Buildings, Grounds, and Utilities													
20	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	10.5648	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					12.4711	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-656. CO Exhaust Emissions from Off

#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
		Maximum Daily Emissions, lbs/day																			
10	Berm/Levee Fill	--	--	--	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64	6.64
		--	--	--	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
		--	--	--	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08	9.08
		--	--	--	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32
		--	**--**	**--**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**
		--	**--**	**4.50**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**	**17.42**
15 - Floodway Control and Diversion Structures																					
11	Mobilization and Demobilization	--	--	--	--	0.19	--	--	--	--	--	--	--	--	--	--	--	0.19	--	--	
		--	--	--	--	3.65	--	--	--	--	--	--	--	--	--	--	--	3.65	--	--	
		--	--	--	--	0.22	--	--	--	--	--	--	--	--	--	--	--	0.22	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**4.06**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.06**	**--**	**--**	
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	0.19	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	2.99	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	1.32	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**4.49**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	--	--	--
		--	--	--	--	--	--	--	--	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.12**	**4.12**	**4.12**	**4.12**	**4.12**	**4.12**	**4.12**	**4.12**	**4.12**	**--**	**--**	**--**
14	Excavation (Wet Conditions)	--	--	--	--	--	4.52	4.52	--	--	4.52	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	6.64	6.64	--	--	6.64	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	9.58	9.58	--	--	9.58	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	5.24	5.24	--	--	5.24	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	1.54	1.54	--	--	1.54	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**27.52**	**27.52**	**--**	**--**	**27.52**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	--	--	0.19	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	2.99	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	1.32	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.49**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
16	Culvert Headwall	--	--	--	--	--	--	--	--	--	--	--	0.21	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	0.37	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	1.32	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.90**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	--	--	--	--	3.48	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	0.37	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	0.88	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.73**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
18	Water Control Structure	--	--	--	--	--	--	--	--	--	--	--	--	--	0.21	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.37	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	1.32	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.90**	**--**	**--**	**--**	**--**	**--**	**--**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.48	3.48	3.48	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.58	0.58	0.58	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.88	0.88	0.88	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.94**	**4.94**	**4.94**	**--**	**--**	**--**
		--	**--**	**--**	**--**	**4.06**	**27.52**	**27.52**	**4.49**	**4.12**	**31.64**	**8.61**	**6.02**	**8.85**	**6.02**	**9.06**	**9.06**	**9.06**	**4.06**	**--**	**--**
19 - Buildings, Grounds, and Utilities																					
20	Mobilization and Demobilization	0.19	--	--	--	--	--	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--
		3.65	--	--	--	--	--	3.65	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.22	--	--	--	--	--	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		4.06	**--**	**--**	**--**	**--**	**--**	**4.06**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-656. CO Exhaust Emissions from Off

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
10	Berm/Levee Fill	6.64	--	--	--	--	--	--	--	0.3153
		0.37	--	--	--	--	--	--	--	0.0177
		9.08	--	--	--	--	--	--	--	0.4315
		1.32	--	--	--	--	--	--	--	0.0627
		17.42	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.8272**
		17.42	**4.50**	**--**	**--**	**--**	**--**	**--**	**--**	**0.8317**
15 - Floodway Control and Diversion Structures										
11	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0036
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0041**
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	--	0.0073
		--	--	--	--	--	--	--	--	0.1164
		--	--	--	--	--	--	--	--	0.0515
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1752**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.0933
		--	--	--	--	--	--	--	--	0.0178
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1111**
14	Excavation (Wet Conditions)	--	--	--	--	--	--	--	--	0.0339
		--	--	--	--	--	--	--	--	0.0498
		--	--	--	--	--	--	--	--	0.0719
		--	--	--	--	--	--	--	--	0.0393
		--	--	--	--	--	--	--	--	0.0115
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.2064**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0030
		--	--	--	--	--	--	--	--	0.0013
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0045**
16	Culvert Headwall	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0013
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0019**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	0.0017
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0004
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0024**
18	Water Control Structure	--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0026
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0038**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	0.0418
		--	--	--	--	--	--	--	--	0.0070
		--	--	--	--	--	--	--	--	0.0106
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0593**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.5687**
19 - Buildings, Grounds, and Utilities										
20	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0036
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0041**

Table L1-656. CO Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
21	CMU Building and Earthwork Pad Construction	1	EA	165 HP Dozer	Rubber Tired Dozers	1	165	-	1	1	30	1.9690	g/hp-hr
				Scraper	Scrapers	1	367					0.7376	g/hp-hr
				Motor Grader	Graders	1	187					0.6411	g/hp-hr
				Compactor	Rollers	1	80					1.8537	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					10.5648	g/hr
				10 TN Smooth Roller	Rollers	1	157					1.6405	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					12.4711	g/hr
				Concrete Pump Boom Truck Mounted	Pumps	1	84					2.3329	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					1.4921	g/hp-hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					2.0693	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	1	MHDT					10.5648	g/hr
												CMU Building and Earthwork Pad Construction Subtotal	
22	Concrete Duct Bank	40	CY	Concrete Pump Boom Truck Mounted	Pumps	1	84	60	1	60	1	2.3329	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					1.4921	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					12.4711	g/hr
												Concrete Duct Bank Subtotal	
												19 - Buildings, Grounds, and Utilities Total	
20 -Permanent Operating Equipment													
23	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	10.5648	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					12.4711	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
24	Power, Electrical, & Mechanical Equipment	-	-	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-	1	1	30	2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					12.4711	g/hr
												Power, Electrical, & Mechanical Equipment Subtotal	
25	Communication Equipment	-	-	Pickup Truck Conventional	n/a - onroad	3	LDT2	-	1	1	12	12.4711	g/hr
												Communication Equipment Subtotal	
												20 -Permanent Operating Equipment Total	
GRAND TOTAL													

Table L1-656. CO Exhaust Emissions from Off

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
21	CMU Building and Earthwork Pad Construction	--	5.73	5.73	5.73	5.73	5.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	4.77	4.77	4.77	4.77	4.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	2.11	2.11	2.11	2.11	2.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	2.62	2.62	2.62	2.62	2.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.19	0.19	0.19	0.19	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	4.54	4.54	4.54	4.54	4.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.54	1.54	1.54	1.54	1.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	3.46	3.46	3.46	3.46	3.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.21	0.21	0.21	0.21	0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	3.65	3.65	3.65	3.65	3.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.19	0.19	0.19	0.19	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**29.01**	**29.01**	**29.01**	**29.01**	**29.01**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
22	Concrete Duct Bank	--	--	--	--	3.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	1.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**5.58**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		4.06	**29.01**	**29.01**	**29.01**	**34.58**	**29.01**	**4.06**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
20 -Permanent Operating Equipment																					
23	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.19	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.65	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.22	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.06**	**--**	**--**	**--**	**--**
24	Power, Electrical, & Mechanical Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.65	3.65	3.65	3.65
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.66	0.66	0.66	0.66
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.31**	**4.31**	**4.31**	**4.31**
25	Communication Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.66
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.66**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4.06**	**4.31**	**4.31**	**4.31**	**4.97**
GRAND TOTAL		**13.01**	**88.72**	**93.21**	**106.13**	**84.40**	**102.28**	**124.13**	**97.05**	**96.67**	**124.19**	**101.16**	**70.23**	**73.07**	**70.23**	**73.27**	**77.33**	**77.58**	**72.58**	**68.53**	**26.54**

Table L1-656. CO Exhaust Emissions from Of

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
21	CMU Building and Earthwork Pad Construction	--	--	--	--	--	--	--	--	0.0859
		--	--	--	--	--	--	--	--	0.0716
		--	--	--	--	--	--	--	--	0.0317
		--	--	--	--	--	--	--	--	0.0392
		--	--	--	--	--	--	--	--	0.0028
		--	--	--	--	--	--	--	--	0.0681
		--	--	--	--	--	--	--	--	0.0231
		--	--	--	--	--	--	--	--	0.0518
		--	--	--	--	--	--	--	--	0.0032
		--	--	--	--	--	--	--	--	0.0547
		--	--	--	--	--	--	--	--	0.0028
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.4351**
22	Concrete Duct Bank	--	--	--	--	--	--	--	--	0.0017
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0008
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0028**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.4419**
20 -Permanent Operating Equipment										
23	Mobilization and Demobilization	--	0.19	--	--	--	--	--	--	0.0002
		--	3.65	--	--	--	--	--	--	0.0036
		--	0.22	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	--
		--	**4.06**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0041**
24	Power, Electrical, & Mechanical Equipment	3.65	--	--	--	--	--	--	--	0.0547
		0.66	--	--	--	--	--	--	--	0.0099
		4.31	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0646**
25	Communication Equipment	0.66	--	--	--	--	--	--	--	0.0040
		0.66	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0040**
		4.97	**4.06**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0727**
GRAND TOTAL		**26.44**	**13.98**	**4.28**	**--**	**--**	**--**	**--**	**--**	**4.5844**

Table L1-657. SO2 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
02 - Relocations													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.1718	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					0.0468	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
2	Levee O&M Road Regrading (6" AB)	218,000	SF	12' Blade Grader	Graders	1	187	39,400	1	39,400	6	0.0039	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.0468	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	5	HHDT					0.2206	g/hr
												Levee O&M Road Regrading (6" AB) Subtotal	
3	Temporary Electrical Power	100	LF	Flatbed Truck	n/a - onroad	1	MHDT	1,500	1	1,500	1	0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					0.0468	g/hr
												Temporary Electrical Power Subtotal	
												02 - Relocations Total	
09 - Channels and Canals													
4	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.1718	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.0468	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
5	Clearing and Grubbing	67	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	2	2	4	17	0.0043	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0026	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.0163	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.0468	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					0.2206	g/hr
												Clearing and Grubbing Subtotal	
6	Excavation/Grading (Dry Conditions)	133,580	CY	300 HP Dozer	Rubber Tired Dozers	1	300	3,500	1	3,500	30	0.0033	g/hp-hr
				21 CY Scrapers	Scrapers	4	407					0.0040	g/hp-hr
				12' Blade Grader	Graders	1	187					0.0039	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.0468	g/hr
												Excavation/Grading (Dry Conditions) Subtotal	
7	Riprap - Class 2	153,590	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	2	2,000	72	0.0032	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0036	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					0.2206	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.0468	g/hr
												Riprap - Class 2 Subtotal	
8	Erosion Control Seeding	24	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	13	0.0037	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.0468	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
11 - Levees and Floodwalls													
9	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	-	2	0.1718	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.0468	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-657. SO2 Exhaust Emissions from O

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
02 - Relocations																					
1	Mobilization and Demobilization	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Levee O&M Road Regrading (6" AB)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Temporary Electrical Power	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.00	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.02	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
09 - Channels and Canals																					
4	Mobilization and Demobilization	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Clearing and Grubbing	--	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	0.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.06**	**0.06**	**0.06**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.12	0.12	0.12	0.12	0.12	0.12	0.12	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
7	Riprap - Class 2	--	--	--	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	--
		--	--	--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--
		--	--	--	--	--	--	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	--
		--	--	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--
		--	**--**	**--**	**--**	**--**	**--**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**--**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.01**
		0.01	**0.06**	**0.06**	**0.06**	**0.15**	**0.15**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.28**	**0.01**
11 - Levees and Floodwalls																					
9	Mobilization and Demobilization	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-657. SO2 Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations										
1	Mobilization and Demobilization	--	--	0.00	--	--	--	--	--	0.0000
		--	--	0.01	--	--	--	--	--	0.0000
		--	--	0.00	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**0.01**	**--**	**--**	**--**	**--**	**--**	**0.0000**
2	Levee O&M Road Regrading (6" AB)	--	0.01	--	--	--	--	--	--	0.0000
		--	0.00	--	--	--	--	--	--	0.0000
		--	0.00	--	--	--	--	--	--	0.0000
		--	0.02	--	--	--	--	--	--	0.0001
		--	**0.04**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
3	Temporary Electrical Power	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
		--	**0.04**	**0.01**	**--**	**--**	**--**	**--**	**--**	**0.0001**
09 - Channels and Canals										
4	Mobilization and Demobilization	0.00	--	--	--	--	--	--	--	0.0000
		0.01	--	--	--	--	--	--	--	0.0000
		0.00	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		0.01	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
5	Clearing and Grubbing	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0005**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0017
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0023**
7	Riprap - Class 2	--	--	--	--	--	--	--	--	0.0021
		--	--	--	--	--	--	--	--	0.0014
		--	--	--	--	--	--	--	--	0.0064
		--	--	--	--	--	--	--	--	0.0003
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0102**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
		0.01	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0131**
11 - Levees and Floodwalls										
9	Mobilization and Demobilization	--	0.00	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.00	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**

Table L1-657. SO2 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
10	Berm/Levee Fill	213,520	CY	300 HP Dozer	Rubber Tired Dozers	1	300	1,000	2	2,000	95	0.0033	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.1718	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0036	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.0468	g/hr
												Berm/Levee Fill Subtotal	
												11 - Levees and Floodwalls Total	
15 - Floodway Control and Diversion Structures													
11	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.1718	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.0468	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
12	Construction Site Dewatering (Temporary Coffer	93,000	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	78	0.1718	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0048	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.0468	g/hr
												Construction Site Dewatering (Temporary Cofferdam) Subtotal	
13	Construction Site Dewatering (Pumping)	-	-	6" Dia. Pump Engine Drive	Pumps	1	84	-	1	1	54	0.0049	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.0468	g/hr
												Construction Site Dewatering (Pumping) Subtotal	
14	Excavation (Wet Conditions)	25,960	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	1,800	1	1,800	15	0.0032	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0033	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0035	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	9	HHDT					0.2206	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.0468	g/hr
												Excavation (Wet Conditions) Subtotal	
15	Sheet Pile Wall	1,840	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	2	0.1718	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0048	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.0468	g/hr
												Sheet Pile Wall Subtotal	
16	Culvert Headwall	110	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	60	1	60	2	0.0038	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.0468	g/hr
												Culvert Headwall Subtotal	
17	Precast Box Culvert 10'x8' 30'	30	LF	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	100	1	100	1	0.0024	g/hp-hr
				Flatbed Truck	n/a - onroad	2	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.0468	g/hr
												Precast Box Culvert 10'x8' 30' Subtotal	
18	Water Control Structure	280	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	70	1	70	4	0.0038	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.0468	g/hr
												Water Control Structure Subtotal	
19	Inflatable Obermeyer Gates	3	EA	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	0.1	1	0.1	24	0.0024	g/hp-hr
				Haul Truck Oversize Transport	n/a - onroad	1	HHDT					0.2206	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.0468	g/hr
												Inflatable Obermeyer Gates Subtotal	
												15 - Floodway Control and Diversion Structures Total	
19 - Buildings, Grounds, and Utilities													
20	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.1718	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.0468	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-657. SO2 Exhaust Emissions from O

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
10	Berm/Levee Fill	--	--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
		--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
		--	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		--	--	--	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**
		--	--	**0.01**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**
15 - Floodway Control and Diversion Structures																					
11	Mobilization and Demobilization	--	--	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	
		--	--	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	**0.01**	--	--	--	--	--	--	--	--	--	--	--	**0.01**	--	--	--
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	**0.03**	--	--	--	--	--	--	--	--	--	--	--	--
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--
		--	--	--	--	--	--	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--
		--	--	--	--	--	--	--	--	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	--	--	--
14	Excavation (Wet Conditions)	--	--	--	--	--	0.02	0.02	--	--	0.02	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.03	0.03	--	--	0.03	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.02	0.02	--	--	0.02	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.04	0.04	--	--	0.04	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	0.01	0.01	--	--	0.01	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	**0.12**	**0.12**	--	--	**0.12**	--	--	--	--	--	--	--	--	--	--
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	**0.03**	--	--	--	--	--	--	--	--	--
16	Culvert Headwall	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	**0.01**	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	**0.03**	--	--	--	--	--	--	--
18	Water Control Structure	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	**0.01**	--	--	--	--	--	--
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	--	--	--	--	--		0.02	0.02	0.02	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--		0.00	0.00	0.00	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--		0.00	0.00	0.00	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.03**	**0.03**	**0.03**	--	--	--
		--	--	--	--	**0.01**	**0.12**	**0.12**	**0.03**	**0.01**	**0.13**	**0.04**	**0.02**	**0.04**	**0.02**	**0.04**	**0.04**	**0.04**	**0.01**	--	--
19 - Buildings, Grounds, and Utilities																					
20	Mobilization and Demobilization	0.00	--	--	--	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
		0.01	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	
		0.00	--	--	--	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.01	--	--	--	--	--	**0.01**	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L1-657. SO2 Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
10	Berm/Levee Fill	0.03	--	--	--	--	--	--	--	0.0017
		0.01	--	--	--	--	--	--	--	0.0003
		0.02	--	--	--	--	--	--	--	0.0009
		0.00	--	--	--	--	--	--	--	0.0002
		0.07	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0031**
		0.07	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0031**
15 - Floodway Control and Diversion Structures										
11	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0002
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0010**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0003**
14	Excavation (Wet Conditions)	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0009**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
16	Culvert Headwall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
18	Water Control Structure	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0003**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0026**
19 - Buildings, Grounds, and Utilities										
20	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**

Table L1-657. SO2 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
21	CMU Building and Earthwork Pad Construction	1	EA	165 HP Dozer	Rubber Tired Dozers	1	165	-	1	1	30	0.0039	g/hp-hr
				Scraper	Scrapers	1	367					0.0040	g/hp-hr
				Motor Grader	Graders	1	187					0.0039	g/hp-hr
				Compactor	Rollers	1	80					0.0037	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.1718	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0036	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.0468	g/hr
				Concrete Pump Boom Truck Mounted	Pumps	1	84					0.0049	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.0038	g/hp-hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0040	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	1	MHDT					0.1718	g/hr
												CMU Building and Earthwork Pad Construction Subtotal	
22	Concrete Duct Bank	40	CY	Concrete Pump Boom Truck Mounted	Pumps	1	84	60	1	60	1	0.0049	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.0038	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.0468	g/hr
												Concrete Duct Bank Subtotal	
												19 - Buildings, Grounds, and Utilities Total	
20 -Permanent Operating Equipment													
23	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.1718	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.0468	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
24	Power, Electrical, & Mechanical Equipment	-	-	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-	1	1	30	0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.0468	g/hr
												Power, Electrical, & Mechanical Equipment Subtotal	
25	Communication Equipment	-	-	Pickup Truck Conventional	n/a - onroad	3	LDT2	-	1	1	12	0.0468	g/hr
												Communication Equipment Subtotal	
												20 -Permanent Operating Equipment Total	
GRAND TOTAL													

Table L1-657. SO2 Exhaust Emissions from O

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
21	CMU Building and Earthwork Pad Construction	--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	0.00	0.00	0.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	0.00	0.00	0.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	0.00	0.00	0.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
22	Concrete Duct Bank	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**0.02**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.01	**0.09**	**0.09**	**0.09**	**0.11**	**0.09**	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
20 -Permanent Operating Equipment																					
23	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.01**	**--**	**--**	**--**	**--**
24	Power, Electrical, & Mechanical Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01	0.01	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	0.00	0.00	0.00
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.01**	**0.01**	**0.01**	**0.01**
25	Communication Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.00**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
GRAND TOTAL		**0.04**	**0.15**	**0.16**	**0.22**	**0.34**	**0.43**	**0.63**	**0.53**	**0.51**	**0.63**	**0.54**	**0.37**	**0.39**	**0.37**	**0.38**	**0.40**	**0.39**	**0.37**	**0.36**	**0.09**

Table L1-657. SO2 Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
21	CMU Building and Earthwork Pad Construction	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0014**
22	Concrete Duct Bank	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0014**
20 -Permanent Operating Equipment										
23	Mobilization and Demobilization	--	0.00	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.00	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
24	Power, Electrical, & Mechanical Equipment	0.01	--	--	--	--	--	--	--	0.0001
		0.00	--	--	--	--	--	--	--	0.0000
		0.01	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
25	Communication Equipment	0.00	--	--	--	--	--	--	--	0.0000
		0.00	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
		0.01	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0002**
GRAND TOTAL		**0.09**	**0.06**	**0.01**	**--**	**--**	**--**	**--**	**--**	**0.0205**

Table L1-658. PM10 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
02 - Relocations													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.2051	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0038	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					0.7714	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
2	Levee O&M Road Regrading (6" AB)	218,000	SF	12' Blade Grader	Graders	1	187	39,400	1	39,400	6	0.0038	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.7714	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	5	HHDT					1.5952	g/hr
												Levee O&M Road Regrading (6" AB) Subtotal	
3	Temporary Electrical Power	100	LF	Flatbed Truck	n/a - onroad	1	MHDT	1,500	1	1,500	1	2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					0.7714	g/hr
												Temporary Electrical Power Subtotal	
												02 - Relocations Total	
09 - Channels and Canals													
4	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.2051	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0038	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.7714	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
5	Clearing and Grubbing	67	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	2	2	4	17	0.0045	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0303	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.2300	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.7714	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					1.5952	g/hr
												Clearing and Grubbing Subtotal	
6	Excavation/Grading (Dry Conditions)	133,580	CY	300 HP Dozer	Rubber Tired Dozers	1	300	3,500	1	3,500	30	0.0040	g/hp-hr
				21 CY Scrapers	Scrapers	4	407					0.0045	g/hp-hr
				12' Blade Grader	Graders	1	187					0.0038	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.7714	g/hr
												Excavation/Grading (Dry Conditions) Subtotal	
7	Riprap - Class 2	153,590	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	2	2,000	72	0.0036	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0040	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					1.5952	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.7714	g/hr
												Riprap - Class 2 Subtotal	
8	Erosion Control Seeding	24	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	13	0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.7714	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
11 - Levees and Floodwalls													
9	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	-	2	2.2051	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0038	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.7714	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-658. PM10 Exhaust Emissions from (

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
02 - Relocations																					
1	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.07	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Levee O&M Road Regrading (6" AB)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Temporary Electrical Power	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.07	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.14	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
09 - Channels and Canals																					
4	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Clearing and Grubbing	--	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.15	0.15	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.06	0.06	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.08	0.08	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.16	0.16	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.06	0.06	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.53**	**0.53**	**0.53**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.13	0.13	0.13	0.13	0.13	0.13	0.13	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.10	0.10	0.10	0.10	0.10	0.10	0.10	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
7	Riprap - Class 2	--	--	--	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	--
		--	--	--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--
		--	--	--	--	--	--	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	--
		--	--	--	--	--	--	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	--
		--	**--**	**--**	**--**	**--**	**--**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**--**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.06**
		0.06	**0.53**	**0.53**	**0.53**	**0.30**	**0.30**	**1.83**	**1.83**	**1.83**	**1.83**	**1.83**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**0.06**
11 - Levees and Floodwalls																					
9	Mobilization and Demobilization	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.09**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-658. PM10 Exhaust Emissions from (

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations										
1	Mobilization and Demobilization	--	--	0.04	--	--	--	--	--	0.0000
		--	--	0.01	--	--	--	--	--	0.0000
		--	--	0.03	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**0.07**	**--**	**--**	**--**	**--**	**--**	**0.0001**
2	Levee O&M Road Regrading (6" AB)	--	0.01	--	--	--	--	--	--	0.0000
		--	0.04	--	--	--	--	--	--	0.0001
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.14	--	--	--	--	--	--	0.0004
		--	**0.21**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0006**
3	Temporary Electrical Power	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
		--	**0.21**	**0.07**	**--**	**--**	**--**	**--**	**--**	**0.0007**
09 - Channels and Canals										
4	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	0.0000
		0.01	--	--	--	--	--	--	--	0.0000
		0.01	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		0.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
5	Clearing and Grubbing	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0013
		--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0014
		--	--	--	--	--	--	--	--	0.0005
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0045**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0019
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0014
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0045**
7	Riprap - Class 2	--	--	--	--	--	--	--	--	0.0023
		--	--	--	--	--	--	--	--	0.0015
		--	--	--	--	--	--	--	--	0.0466
		--	--	--	--	--	--	--	--	0.0049
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0553**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0004
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0004**
		0.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0648**
11 - Levees and Floodwalls										
9	Mobilization and Demobilization	--	0.04	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.04	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**0.09**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**

Table L1-658. PM10 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
10	Berm/Levee Fill	213,520	CY	300 HP Dozer	Rubber Tired Dozers	1	300	1,000	2	2,000	95	0.0040	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.2051	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0034	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.7714	g/hr
												Berm/Levee Fill Subtotal	
												11 - Levees and Floodwalls Total	
15 - Floodway Control and Diversion Structures													
11	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.2051	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0038	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.7714	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
12	Construction Site Dewatering (Temporary Coffer	93,000	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	78	2.2051	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0046	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.7714	g/hr
												Construction Site Dewatering (Temporary Cofferdam) Subtotal	
13	Construction Site Dewatering (Pumping)	-	-	6" Dia. Pump Engine Drive	Pumps	1	84	-	1	1	54	0.0071	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.7714	g/hr
												Construction Site Dewatering (Pumping) Subtotal	
14	Excavation (Wet Conditions)	25,960	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	1,800	1	1,800	15	0.0036	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0040	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0038	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	9	HHDT					1.5952	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.7714	g/hr
												Excavation (Wet Conditions) Subtotal	
15	Sheet Pile Wall	1,840	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	2	2.2051	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0046	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.7714	g/hr
												Sheet Pile Wall Subtotal	
16	Culvert Headwall	110	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	60	1	60	2	0.0696	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.7714	g/hr
												Culvert Headwall Subtotal	
17	Precast Box Culvert 10'x8' 30'	30	LF	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	100	1	100	1	0.0027	g/hp-hr
				Flatbed Truck	n/a - onroad	2	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.7714	g/hr
												Precast Box Culvert 10'x8' 30' Subtotal	
18	Water Control Structure	280	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	70	1	70	4	0.0696	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.7714	g/hr
												Water Control Structure Subtotal	
19	Inflatable Obermeyer Gates	3	EA	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	0.1	1	0.1	24	0.0027	g/hp-hr
				Haul Truck Oversize Transport	n/a - onroad	1	HHDT					1.5952	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.7714	g/hr
												Inflatable Obermeyer Gates Subtotal	
												15 - Floodway Control and Diversion Structures Total	
19 - Buildings, Grounds, and Utilities													
20	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.2051	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0038	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.7714	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-658. PM10 Exhaust Emissions from (

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
10	Berm/Levee Fill	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
		--	--	--	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
		--	--	--	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		--	**--**	**--**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**
		--	**--**	**0.09**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**
15 - Floodway Control and Diversion Structures																					
11	Mobilization and Demobilization	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**0.06**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.06**	**--**	**--**	
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**0.14**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--
		--	--	--	--	--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**--**	**--**	**--**
14	Excavation (Wet Conditions)	--	--	--	--	--	0.03	0.03	--	--	0.03	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.04	0.04	--	--	0.04	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.02	0.02	--	--	0.02	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.25	0.25	--	--	0.25	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.10	0.10	--	--	0.10	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**0.44**	**0.44**	**--**	**--**	**0.44**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.14**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
16	Culvert Headwall	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.17**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	0.05	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.15**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
18	Water Control Structure	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.17**	**--**	**--**	**--**	**--**	**--**	**--**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	0.02	0.02	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.03	0.03	0.03	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05	0.05	0.05	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.10**	**0.10**	**0.10**	**--**	**--**	**--**
		--	**--**	**--**	**--**	**0.06**	**0.44**	**0.44**	**0.14**	**0.05**	**0.49**	**0.19**	**0.22**	**0.20**	**0.22**	**0.16**	**0.16**	**0.16**	**0.06**	**--**	**--**
19 - Buildings, Grounds, and Utilities																					
20	Mobilization and Demobilization	0.04	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.06	**--**	**--**	**--**	**--**	**--**	**0.06**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-658. PM10 Exhaust Emissions from (

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
10	Berm/Levee Fill	0.04	--	--	--	--	--	--	--	0.0020
		0.08	--	--	--	--	--	--	--	0.0037
		0.02	--	--	--	--	--	--	--	0.0009
		0.08	--	--	--	--	--	--	--	0.0039
		0.22	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0105**
		0.22	**0.09**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0106**
15 - Floodway Control and Diversion Structures										
11	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	--	0.0015
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0032
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0054**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0011
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0014**
14	Excavation (Wet Conditions)	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0019
		--	--	--	--	--	--	--	--	0.0007
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0033**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
16	Culvert Headwall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0002**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
18	Water Control Structure	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0002
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0003**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0007
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0012**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0121**
19 - Buildings, Grounds, and Utilities										
20	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**

Table L1-658. PM10 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
21	CMU Building and Earthwork Pad Construction	1	EA	165 HP Dozer	Rubber Tired Dozers	1	165	-	1	1	30	0.0043	g/hp-hr
				Scraper	Scrapers	1	367					0.0045	g/hp-hr
				Motor Grader	Graders	1	187					0.0038	g/hp-hr
				Compactor	Rollers	1	80					0.0037	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.2051	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0034	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.7714	g/hr
				Concrete Pump Boom Truck Mounted	Pumps	1	84					0.0071	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.0696	g/hp-hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0038	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	1	MHDT					2.2051	g/hr
											CMU Building and Earthwork Pad Construction Subtotal		
22	Concrete Duct Bank	40	CY	Concrete Pump Boom Truck Mounted	Pumps	1	84	60	1	60	1	0.0071	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.0696	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.7714	g/hr
											Concrete Duct Bank Subtotal		
										19 - Buildings, Grounds, and Utilities Total			
20 -Permanent Operating Equipment													
23	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.2051	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0038	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.7714	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
										Mobilization and Demobilization Subtotal			
24	Power, Electrical, & Mechanical Equipment	-	-	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-	1	1	30	0.0038	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.7714	g/hr
											Power, Electrical, & Mechanical Equipment Subtotal		
25	Communication Equipment	-	-	Pickup Truck Conventional	n/a - onroad	3	LDT2	-	1	1	12	0.7714	g/hr
											Communication Equipment Subtotal		
										20 -Permanent Operating Equipment Total			
GRAND TOTAL													

Table L1-658. PM10 Exhaust Emissions from (

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
21	CMU Building and Earthwork Pad Construction	--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.10	0.10	0.10	0.10	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.27**	**0.27**	**0.27**	**0.27**	**0.27**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
22	Concrete Duct Bank	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**0.19**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.06	**0.27**	**0.27**	**0.27**	**0.46**	**0.27**	**0.06**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
20 -Permanent Operating Equipment																					
23	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.06**	**--**	**--**	**--**	**--**
24	Power, Electrical, & Mechanical Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01	0.01	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.04	0.04	0.04	0.04
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.05**	**0.05**	**0.05**	**0.05**
25	Communication Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.04
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.04**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.06**	**0.05**	**0.05**	**0.05**	**0.09**
GRAND TOTAL		**0.26**	**0.80**	**0.89**	**1.02**	**1.04**	**1.23**	**2.55**	**2.19**	**2.11**	**2.55**	**2.24**	**1.98**	**1.96**	**1.98**	**1.91**	**1.97**	**1.96**	**1.86**	**1.81**	**0.37**

Table L1-658. PM10 Exhaust Emissions from (

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
21	CMU Building and Earthwork Pad Construction	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0014
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0006
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0040**
22	Concrete Duct Bank	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0042**
20 -Permanent Operating Equipment										
23	Mobilization and Demobilization	--	0.04	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**0.06**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
24	Power, Electrical, & Mechanical Equipment	0.01	--	--	--	--	--	--	--	0.0001
		0.04	--	--	--	--	--	--	--	0.0006
		0.05	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0007**
25	Communication Equipment	0.04	--	--	--	--	--	--	--	0.0002
		0.04	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0002**
		0.09	**0.06**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0010**
GRAND TOTAL		**0.37**	**0.35**	**0.07**	**--**	**--**	**--**	**--**	**--**	**0.0934**

Table L1-659. PM2.5 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
02 - Relocations													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.9499	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0035	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					0.3620	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
2	Levee O&M Road Regrading (6" AB)	218,000	SF	12' Blade Grader	Graders	1	187	39,400	1	39,400	6	0.0035	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.3620	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	5	HHDT					0.6688	g/hr
												Levee O&M Road Regrading (6" AB) Subtotal	
3	Temporary Electrical Power	100	LF	Flatbed Truck	n/a - onroad	1	MHDT	1,500	1	1,500	1	0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	2	LDT2					0.3620	g/hr
												Temporary Electrical Power Subtotal	
												02 - Relocations Total	
09 - Channels and Canals													
4	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.9499	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0035	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.3620	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
5	Clearing and Grubbing	67	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	2	2	4	17	0.0041	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0279	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.2116	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.3620	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					0.6688	g/hr
												Clearing and Grubbing Subtotal	
6	Excavation/Grading (Dry Conditions)	133,580	CY	300 HP Dozer	Rubber Tired Dozers	1	300	3,500	1	3,500	30	0.0037	g/hp-hr
				21 CY Scrapers	Scrapers	4	407					0.0042	g/hp-hr
				12' Blade Grader	Graders	1	187					0.0035	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.3620	g/hr
												Excavation/Grading (Dry Conditions) Subtotal	
7	Riprap - Class 2	153,590	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	2	2,000	72	0.0033	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0036	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					0.6688	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.3620	g/hr
												Riprap - Class 2 Subtotal	
8	Erosion Control Seeding	24	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	13	0.0037	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.3620	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
11 - Levees and Floodwalls													
9	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	-	2	0.9499	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0035	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.3620	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-659. PM2.5 Exhaust Emissions from

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
02 - Relocations																					
1	Mobilization and Demobilization	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.04	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Levee O&M Road Regrading (6" AB)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Temporary Electrical Power	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.07	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
09 - Channels and Canals																					
4	Mobilization and Demobilization	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Clearing and Grubbing	--	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.14	0.14	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.06	0.06	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.08	0.08	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.35**	**0.35**	**0.35**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.12	0.12	0.12	0.12	0.12	0.12	0.12	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
7	Riprap - Class 2	--	--	--	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	--
		--	--	--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--
		--	--	--	--	--	--	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	--
		--	--	--	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	--
		--	**--**	**--**	**--**	**--**	**--**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**--**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.03
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.03**
		0.03	**0.35**	**0.35**	**0.35**	**0.21**	**0.21**	**0.92**	**0.92**	**0.92**	**0.92**	**0.92**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.70**	**0.03**
11 - Levees and Floodwalls																					
9	Mobilization and Demobilization	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.04**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-659. PM2.5 Exhaust Emissions from

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations										
1	Mobilization and Demobilization	--	--	0.02	--	--	--	--	--	0.0000
		--	--	0.01	--	--	--	--	--	0.0000
		--	--	0.01	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**0.04**	**--**	**--**	**--**	**--**	**--**	**0.0000**
2	Levee O&M Road Regrading (6" AB)	--	0.01	--	--	--	--	--	--	0.0000
		--	0.02	--	--	--	--	--	--	0.0001
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.06	--	--	--	--	--	--	0.0002
		--	**0.09**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0003**
3	Temporary Electrical Power	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
		--	**0.09**	**0.04**	**--**	**--**	**--**	**--**	**--**	**0.0003**
09 - Channels and Canals										
4	Mobilization and Demobilization	0.02	--	--	--	--	--	--	--	0.0000
		0.01	--	--	--	--	--	--	--	0.0000
		0.01	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		0.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
5	Clearing and Grubbing	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0012
		--	--	--	--	--	--	--	--	0.0005
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0002
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0030**
6	Excavation/Grading (Dry Conditions)	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0018
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0007
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0032**
7	Riprap - Class 2	--	--	--	--	--	--	--	--	0.0022
		--	--	--	--	--	--	--	--	0.0014
		--	--	--	--	--	--	--	--	0.0195
		--	--	--	--	--	--	--	--	0.0023
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0254**
8	Erosion Control Seeding	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0002
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0002**
		0.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0317**
11 - Levees and Floodwalls										
9	Mobilization and Demobilization	--	0.02	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.02	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**0.04**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**

Table L1-659. PM2.5 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
10	Berm/Levee Fill	213,520	CY	300 HP Dozer	Rubber Tired Dozers	1	300	1,000	2	2,000	95	0.0037	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.9499	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0031	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.3620	g/hr
												Berm/Levee Fill Subtotal	
												11 - Levees and Floodwalls Total	
15 - Floodway Control and Diversion Structures													
11	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.9499	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0035	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.3620	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	
12	Construction Site Dewatering (Temporary Coffer	93,000	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	78	0.9499	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0042	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.3620	g/hr
												Construction Site Dewatering (Temporary Cofferdam) Subtotal	
13	Construction Site Dewatering (Pumping)	-	-	6" Dia. Pump Engine Drive	Pumps	1	84	-	1	1	54	0.0066	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.3620	g/hr
												Construction Site Dewatering (Pumping) Subtotal	
14	Excavation (Wet Conditions)	25,960	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	1,800	1	1,800	15	0.0033	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0037	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0035	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	9	HHDT					0.6688	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.3620	g/hr
												Excavation (Wet Conditions) Subtotal	
15	Sheet Pile Wall	1,840	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	2	0.9499	g/hr
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					0.0042	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.3620	g/hr
												Sheet Pile Wall Subtotal	
16	Culvert Headwall	110	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	60	1	60	2	0.0640	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.3620	g/hr
												Culvert Headwall Subtotal	
17	Precast Box Culvert 10'x8' 30'	30	LF	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	100	1	100	1	0.0025	g/hp-hr
				Flatbed Truck	n/a - onroad	2	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.3620	g/hr
												Precast Box Culvert 10'x8' 30' Subtotal	
18	Water Control Structure	280	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	70	1	70	4	0.0640	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.3620	g/hr
												Water Control Structure Subtotal	
19	Inflatable Obermeyer Gates	3	EA	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	0.1	1	0.1	24	0.0025	g/hp-hr
				Haul Truck Oversize Transport	n/a - onroad	1	HHDT					0.6688	g/hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.3620	g/hr
												Inflatable Obermeyer Gates Subtotal	
												15 - Floodway Control and Diversion Structures Total	
19 - Buildings, Grounds, and Utilities													
20	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.9499	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0035	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.3620	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
												Mobilization and Demobilization Subtotal	

Table L1-659. PM2.5 Exhaust Emissions from

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
10	Berm/Levee Fill	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
		--	--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
		--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
		--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
		--	**--**	**--**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**
		--	**--**	**0.04**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**
15 - Floodway Control and Diversion Structures																					
11	Mobilization and Demobilization	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.03**	**--**	**--**	
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	
		--	**--**	**--**	**--**	**--**	**--**	**--**	**0.07**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--
		--	--	--	--	--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**--**	**--**	**--**
14	Excavation (Wet Conditions)	--	--	--	--	--	0.03	0.03	--	--	0.03	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.04	0.04	--	--	0.04	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.02	0.02	--	--	0.02	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.11	0.11	--	--	0.11	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	0.04	0.04	--	--	0.04	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**0.23**	**0.23**	**--**	**--**	**0.23**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.07**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
16	Culvert Headwall	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	0.03	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.08**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	0.03	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	0.03	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.08**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
18	Water Control Structure	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.03	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.08**	**--**	**--**	**--**	**--**	**--**	**--**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	0.02	0.02	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01	0.01	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.03	0.03	0.03	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.06**	**0.06**	**0.06**	**--**	**--**	**--**
		--	**--**	**--**	**--**	**0.03**	**0.23**	**0.23**	**0.07**	**0.03**	**0.26**	**0.10**	**0.11**	**0.11**	**0.11**	**0.09**	**0.09**	**0.09**	**0.03**	**--**	**--**
19 - Buildings, Grounds, and Utilities																					
20	Mobilization and Demobilization	0.02	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	**--**	**--**	**--**	**--**	**--**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1-659. PM2.5 Exhaust Emissions from

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
10	Berm/Levee Fill	0.04	--	--	--	--	--	--	--	0.0018
		0.03	--	--	--	--	--	--	--	0.0016
		0.02	--	--	--	--	--	--	--	0.0008
		0.04	--	--	--	--	--	--	--	0.0018
		0.13	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0061**
		0.13	**0.04**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0061**
15 - Floodway Control and Diversion Structures										
11	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
12	Construction Site Dewatering (Temporary Coffer	--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0015
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0028**
13	Construction Site Dewatering (Pumping)	--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0005
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0008**
14	Excavation (Wet Conditions)	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0008
		--	--	--	--	--	--	--	--	0.0003
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0018**
15	Sheet Pile Wall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
16	Culvert Headwall	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
17	Precast Box Culvert 10'x8' 30'	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
18	Water Control Structure	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0002**
19	Inflatable Obermeyer Gates	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0003
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0007**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0064**
19 - Buildings, Grounds, and Utilities										
20	Mobilization and Demobilization	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**

Table L1-659. PM2.5 Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
21	CMU Building and Earthwork Pad Construction	1	EA	165 HP Dozer	Rubber Tired Dozers	1	165	-	1	1	30	0.0040	g/hp-hr
				Scraper	Scrapers	1	367					0.0042	g/hp-hr
				Motor Grader	Graders	1	187					0.0035	g/hp-hr
				Compactor	Rollers	1	80					0.0034	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.9499	g/hr
				10 TN Smooth Roller	Rollers	1	157					0.0031	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.3620	g/hr
				Concrete Pump Boom Truck Mounted	Pumps	1	84					0.0066	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.0640	g/hp-hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0035	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	1	MHDT					0.9499	g/hr
											CMU Building and Earthwork Pad Construction Subtotal		
22	Concrete Duct Bank	40	CY	Concrete Pump Boom Truck Mounted	Pumps	1	84	60	1	60	1	0.0066	g/hp-hr
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					0.0640	g/hp-hr
				Concrete Mixer Truck	n/a - onroad	2	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.3620	g/hr
											Concrete Duct Bank Subtotal		
										19 - Buildings, Grounds, and Utilities Total			
20 -Permanent Operating Equipment													
23	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.9499	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					0.0035	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2					0.3620	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0.0000	g/hr
										Mobilization and Demobilization Subtotal			
24	Power, Electrical, & Mechanical Equipment	-	-	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-	1	1	30	0.0035	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	3	LDT2					0.3620	g/hr
											Power, Electrical, & Mechanical Equipment Subtotal		
25	Communication Equipment	-	-	Pickup Truck Conventional	n/a - onroad	3	LDT2	-	1	1	12	0.3620	g/hr
											Communication Equipment Subtotal		
										20 -Permanent Operating Equipment Total			
GRAND TOTAL													

Table L1-659. PM2.5 Exhaust Emissions from

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
21	CMU Building and Earthwork Pad Construction	--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	0.00	0.00	0.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.02	0.02	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.02	0.02	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.17**	**0.17**	**0.17**	**0.17**	**0.17**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
22	Concrete Duct Bank	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**0.10**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
		0.03	**0.17**	**0.17**	**0.17**	**0.26**	**0.17**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
20 -Permanent Operating Equipment																					
23	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.03**	**--**	**--**	**--**	**--**
24	Power, Electrical, & Mechanical Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01	0.01	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	0.02	0.02	0.02
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.03**	**0.03**	**0.03**	**0.03**
25	Communication Equipment	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.02**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.03**	**0.03**	**0.03**	**0.03**	**0.04**
GRAND TOTAL		**0.12**	**0.51**	**0.56**	**0.64**	**0.63**	**0.74**	**1.31**	**1.12**	**1.07**	**1.31**	**1.15**	**0.94**	**0.94**	**0.94**	**0.92**	**0.95**	**0.94**	**0.89**	**0.86**	**0.20**

Table L1-659. PM2.5 Exhaust Emissions from

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
21	CMU Building and Earthwork Pad Construction	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0007
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0003
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0025**
22	Concrete Duct Bank	--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
		--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0026**
20 -Permanent Operating Equipment										
23	Mobilization and Demobilization	--	0.02	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	0.01	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	--
		--	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0000**
24	Power, Electrical, & Mechanical Equipment	0.01	--	--	--	--	--	--	--	0.0001
		0.02	--	--	--	--	--	--	--	0.0003
		0.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0004**
25	Communication Equipment	0.02	--	--	--	--	--	--	--	0.0001
		0.02	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0001**
		0.04	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0005**
GRAND TOTAL		**0.20**	**0.17**	**0.04**	**--**	**--**	**--**	**--**	**--**	**0.0477**

Table L1-660. GHG Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factors CO2	CH4	N2O	CO2e	Units	Annual Emissions, MTCO2e/yr
02 - Relocations																	
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	24535.8	0	0	24535.8	g/hr	0.39
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					340.989	0.01013	0	341.242	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	2	LDT2					8626.38	0	0	8626.38	g/hr	0.28
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0	0	0	0	g/hr	0.00
																Mobilization and Demobilization Subtotal	**1.21**
2	Levee O&M Road Regrading (6" AB)	218,000	SF	12' Blade Grader	Graders	1	187	39,400	1	39,400	6	346.665	0.00749	0	346.853	g/hp-hr	3.11
				4000 gallon Water Truck	n/a - onroad	1	MHDT					24535.8	0	0	24535.8	g/hr	1.18
				Pickup Truck Conventional	n/a - onroad	1	LDT2					8626.38	0	0	8626.38	g/hr	0.41
				16 CY 3 Axle Dump Truck	n/a - onroad	5	HHDT					34432	0	0	34432	g/hr	8.26
																Levee O&M Road Regrading (6" AB) Subtotal	**12.97**
3	Temporary Electrical Power	100	LF	Flatbed Truck	n/a - onroad	1	MHDT	1,500	1	1,500	1	24535.8	0	0	24535.8	g/hr	0.20
				Pickup Truck Conventional	n/a - onroad	2	LDT2					8626.38	0	0	8626.38	g/hr	0.14
																Temporary Electrical Power Subtotal	**0.33**
																02 - Relocations Total	**14.52**
09 - Channels and Canals																	
4	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	24535.8	0	0	24535.8	g/hr	0.39
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					340.989	0.01013	0	341.242	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	1	LDT2					8626.38	0	0	8626.38	g/hr	0.14
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0	0	0	0	g/hr	0.00
																Mobilization and Demobilization Subtotal	**1.08**
5	Clearing and Grubbing	67	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	2	2	4	17	363.734	0.01221	0	364.039	g/hp-hr	10.89
				Trailer Mounted Brush Chipper	Shredders	1	140					227.324	0.0068	0	227.494	g/hp-hr	8.66
				Chainsaw	Chainsaws	1	8					395.092	0	0	395.092	g/hp-hr	0.86
				4000 gallon Water Truck	n/a - onroad	1	MHDT					24535.8	0	0	24535.8	g/hr	6.67
				Pickup Truck Conventional	n/a - onroad	6	LDT2					8626.38	0	0	8626.38	g/hr	14.08
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					34432	0	0	34432	g/hr	9.37
																Clearing and Grubbing Subtotal	**50.53**
6	Excavation/Grading (Dry Conditions)	133,580	CY	300 HP Dozer	Rubber Tired Dozers	1	300	3,500	1	3,500	30	335.255	0.0091	0	335.483	g/hp-hr	24.15
				21 CY Scrapers	Scrapers	4	407					409.124	0.00916	0	409.353	g/hp-hr	159.94
				12' Blade Grader	Graders	1	187					346.665	0.00749	0	346.853	g/hp-hr	15.57
				4000 gallon Water Truck	n/a - onroad	1	MHDT					24535.8	0	0	24535.8	g/hr	5.89
				Pickup Truck Conventional	n/a - onroad	7	LDT2					8626.38	0	0	8626.38	g/hr	14.49
																Excavation/Grading (Dry Conditions) Subtotal	**220.04**
7	Riprap - Class 2	153,590	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	2	2,000	72	323.905	0.00819	0	324.11	g/hp-hr	191.91
				300 HP Dozer Crawler	Crawler Tractors	1	300					363.751	0.00842	0	363.962	g/hp-hr	125.79
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					34432	0	0	34432	g/hr	912.31
				Pickup Truck Conventional	n/a - onroad	5	LDT2					8626.38	0	0	8626.38	g/hr	49.69
																Riprap - Class 2 Subtotal	**1,279.70**
8	Erosion Control Seeding	24	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	13	312.57	0.00972	0	312.814	g/hp-hr	3.16
				Pickup Truck Conventional	n/a - onroad	4	LDT2					8626.38	0	0	8626.38	g/hr	3.59
																Erosion Control Seeding Subtotal	**6.74**
																09 - Channels and Canals Total	**1,558.10**
11 - Levees and Floodwalls																	
9	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	-	2	24535.8	0	0	24535.8	g/hr	0.39
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					340.989	0.01013	0	341.242	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	3	LDT2					8626.38	0	0	8626.38	g/hr	0.41
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0	0	0	0	g/hr	0.00
																Mobilization and Demobilization Subtotal	**1.35**
10	Berm/Levee Fill	213,520	CY	300 HP Dozer	Rubber Tired Dozers	1	300	1,000	2	2,000	95	335.255	0.0091	0	335.483	g/hp-hr	152.98
				4000 gallon Water Truck	n/a - onroad	1	MHDT					24535.8	0	0	24535.8	g/hr	37.29
				10 TN Smooth Roller	Rollers	1	157					318.273	0.00532	0	318.406	g/hp-hr	75.98
				Pickup Truck Conventional	n/a - onroad	3	LDT2					8626.38	0	0	8626.38	g/hr	39.34
																Berm/Levee Fill Subtotal	**305.60**
																11 - Levees and Floodwalls Total	**306.95**
15 - Floodway Control and Diversion Structures																	
11	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	24535.8	0	0	24535.8	g/hr	0.39
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					340.989	0.01013	0	341.242	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	1	LDT2					8626.38	0	0	8626.38	g/hr	0.14
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0	0	0	0	g/hr	0.00
																Mobilization and Demobilization Subtotal	**1.08**
12	Construction Site Dewatering (Temporary Cofferd	93,000	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	78	24535.8	0	0	24535.8	g/hr	15.31
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					426.943	0.00799	0	427.142	g/hp-hr	58.90
				Pickup Truck Conventional	n/a - onroad	6	LDT2					8626.38	0	0	8626.38	g/hr	32.30
																Construction Site Dewatering (Temporary Cofferdam) Subtotal	**106.51**

Table L1-660. GHG Exhaust Emissions from Offroad Construction Equipment (Southern Water Control Structure) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factors CO2	CH4	N2O	CO2e	Units	Annual Emissions, MTCO2e/yr
13	Construction Site Dewatering (Pumping)	-	-	6" Dia. Pump Engine Drive	Pumps	1	84	-	1	1	54	420.626	0.00738	0	420.811	g/hp-hr	15.27
				Pickup Truck Conventional	n/a - onroad	3	LDT2					8626.38	0	0	8626.38	g/hr	11.18
																Construction Site Dewatering (Pumping) Subtotal	**26.45**
14	Excavation (Wet Conditions)	25,960	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	1,800	1	1,800	15	323.905	0.00819	0	324.11	g/hp-hr	16.69
				300 HP Dozer	Rubber Tired Dozers	2	300					335.255	0.0091	0	335.483	g/hp-hr	24.15
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					306.881	0.00646	0	307.043	g/hp-hr	12.09
				16 CY 3 Axle Dump Truck	n/a - onroad	9	HHDT					34432	0	0	34432	g/hr	37.19
				Pickup Truck Conventional	n/a - onroad	7	LDT2					8626.38	0	0	8626.38	g/hr	7.25
																Excavation (Wet Conditions) Subtotal	**97.36**
15	Sheet Pile Wall	1,840	SF	Flatbed Truck	n/a - onroad	1	MHDT	1,200	1	1,200	2	24535.8	0	0	24535.8	g/hr	0.39
				75 TN Crane Crawler Pile Hammer	Bore/Drill Rigs	1	221					426.943	0.00799	0	427.142	g/hp-hr	1.51
				Pickup Truck Conventional	n/a - onroad	6	LDT2					8626.38	0	0	8626.38	g/hr	0.83
																Sheet Pile Wall Subtotal	**2.73**
16	Culvert Headwall	110	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	60	1	60	2	244.363	0.02567	0	245.004	g/hp-hr	0.03
				Concrete Mixer Truck	n/a - onroad	2	MHDT					24535.8	0	0	24535.8	g/hr	0.79
				Pickup Truck Conventional	n/a - onroad	6	LDT2					8626.38	0	0	8626.38	g/hr	0.83
																Culvert Headwall Subtotal	**1.64**
17	Precast Box Culvert 10'x8' 30'	30	LF	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	100	1	100	1	244.429	0.00533	0	244.562	g/hp-hr	0.88
				Flatbed Truck	n/a - onroad	2	MHDT					24535.8	0	0	24535.8	g/hr	0.39
				Pickup Truck Conventional	n/a - onroad	4	LDT2					8626.38	0	0	8626.38	g/hr	0.28
																Precast Box Culvert 10'x8' 30' Subtotal	**1.55**
18	Water Control Structure	280	CY	2.5" Dia. Concrete Vibrator	Plate Compactors	1	8	70	1	70	4	244.363	0.02567	0	245.004	g/hp-hr	0.06
				Concrete Mixer Truck	n/a - onroad	2	MHDT					24535.8	0	0	24535.8	g/hr	1.57
				Pickup Truck Conventional	n/a - onroad	6	LDT2					8626.38	0	0	8626.38	g/hr	1.66
																Water Control Structure Subtotal	**3.29**
19	Inflatable Obermeyer Gates	3	EA	90 TN Truck-mounted Hydraulic Crane	Cranes	1	450	0.1	1	0.1	24	244.429	0.00533	0	244.562	g/hp-hr	21.13
				Haul Truck Oversize Transport	n/a - onroad	1	HHDT					34432	0	0	34432	g/hr	6.61
				Pickup Truck Conventional	n/a - onroad	4	LDT2					8626.38	0	0	8626.38	g/hr	6.63
																Inflatable Obermeyer Gates Subtotal	**34.37**
																15 - Floodway Control and Diversion Structures Total	**274.98**
19 - Buildings, Grounds, and Utilities																	
20	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	24535.8	0	0	24535.8	g/hr	0.39
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					340.989	0.01013	0	341.242	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	1	LDT2					8626.38	0	0	8626.38	g/hr	0.14
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0	0	0	0	g/hr	0.00
																Mobilization and Demobilization Subtotal	**1.08**
21	CMU Building and Earthwork Pad Construction	1	EA	165 HP Dozer	Rubber Tired Dozers	1	165	-	1	1	30	342.96	0.00931	0	343.193	g/hp-hr	13.59
				Scraper	Scrapers	1	367					409.124	0.00916	0	409.353	g/hp-hr	36.06
				Motor Grader	Graders	1	187					346.665	0.00749	0	346.853	g/hp-hr	15.57
				Compactor	Rollers	1	80					318.262	0.00765	0	318.453	g/hp-hr	6.11
				4000 gallon Water Truck	n/a - onroad	1	MHDT					24535.8	0	0	24535.8	g/hr	5.89
				10 TN Smooth Roller	Rollers	1	157					318.273	0.00532	0	318.406	g/hp-hr	12.00
				Pickup Truck Conventional	n/a - onroad	7	LDT2					8626.38	0	0	8626.38	g/hr	14.49
				Concrete Pump Boom Truck Mounted	Pumps	1	84					420.626	0.00738	0	420.811	g/hp-hr	8.48
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					244.363	0.02567	0	245.004	g/hp-hr	0.47
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					340.989	0.01013	0	341.242	g/hp-hr	8.19
				Concrete Mixer Truck	n/a - onroad	1	MHDT					24535.8	0	0	24535.8	g/hr	5.89
																CMU Building and Earthwork Pad Construction Subtotal	**126.74**
22	Concrete Duct Bank	40	CY	Concrete Pump Boom Truck Mounted	Pumps	1	84	60	1	60	1	420.626	0.00738	0	420.811	g/hp-hr	0.28
				2.5" Dia. Concrete Vibrator	Plate Compactors	1	8					244.363	0.02567	0	245.004	g/hp-hr	0.02
				Concrete Mixer Truck	n/a - onroad	2	MHDT					24535.8	0	0	24535.8	g/hr	0.39
				Pickup Truck Conventional	n/a - onroad	7	LDT2					8626.38	0	0	8626.38	g/hr	0.48
																Concrete Duct Bank Subtotal	**1.17**
																19 - Buildings, Grounds, and Utilities Total	**128.99**
20 -Permanent Operating Equipment																	
23	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	24535.8	0	0	24535.8	g/hr	0.39
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100					340.989	0.01013	0	341.242	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	1	LDT2					8626.38	0	0	8626.38	g/hr	0.14
				Temp. Mobile Office Building	n/a - onroad	1	n/a					0	0	0	0	g/hr	0.00
																Mobilization and Demobilization Subtotal	**1.08**
24	Power, Electrical, & Mechanical Equipment	-	-	Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-	1	1	30	340.989	0.01013	0	341.242	g/hp-hr	8.19
				Pickup Truck Conventional	n/a - onroad	3	LDT2					8626.38	0	0	8626.38	g/hr	6.21
																Power, Electrical, & Mechanical Equipment Subtotal	**14.40**
25	Communication Equipment	-	-	Pickup Truck Conventional	n/a - onroad	3	LDT2	-	1	1	12	8626.38	0	0	8626.38	g/hr	2.48
																Communication Equipment Subtotal	**2.48**
																20 -Permanent Operating Equipment Total	**17.96**
GRAND TOTAL																	**2,301.49**

Table L1 -661. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM10 Daily Emissions Summary, lbs/day																	
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
02 - Relocations																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust	n/a																		
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Temporary Electrical Power																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust	n/a																		
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
09 - Channels and Canals																				
4	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust	n/a																		
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing																			
	Material Handling	n/a	n/a	n/a																
	Grading	1.06	1.06	1.06																
	Bulldozing	n/a	n/a	n/a																
	Unpaved Road Dust	n/a	n/a	n/a																
	Paved Road Dust	n/a	n/a	n/a																
	Clearing and Grubbing Subtotal	**--**	**1.06**	**1.06**	**1.06**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Excavation/Grading (Dry Conditions)																			
	Material Handling					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Grading					5.30	5.30	5.30	5.30	5.30	5.30	5.30								
	Bulldozing					2.35	2.35	2.35	2.35	2.35	2.35	2.35								
	Unpaved Road Dust					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Paved Road Dust					--	--	--	--	--	--	--								
	Excavation/Grading (Dry Conditions) Subtotal	**--**	**--**	**--**	**--**	**7.65**	**7.65**	**7.65**	**7.65**	**7.65**	**7.65**	**7.65**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Table L1 -661. PM10 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations											
1	Mobilization and Demobilization										
	Material Handling				n/a						n/a
	Grading				n/a						n/a
	Bulldozing				n/a						n/a
	Unpaved Road Dust				n/a						n/a
	Paved Road Dust				n/a						n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)										
	Material Handling			n/a							n/a
	Grading			0.53							0.00
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust			n/a							n/a
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	**0.53**	--	--	--	--	--	--	**0.00**
3	Temporary Electrical Power										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	**0.53**	--	--	--	--	--	--	**0.00**
09 - Channels and Canals											
4	Mobilization and Demobilization										
	Material Handling		n/a								n/a
	Grading		n/a								n/a
	Bulldozing		n/a								n/a
	Unpaved Road Dust		n/a								n/a
	Paved Road Dust		n/a								n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing										
	Material Handling										n/a
	Grading										0.01
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Clearing and Grubbing Subtotal	--	--	--	--	--	--	--	--	--	**0.01**
6	Excavation/Grading (Dry Conditions)										
	Material Handling										n/a
	Grading										0.08
	Bulldozing										0.04
	Unpaved Road Dust										n/a
	Paved Road Dust										--
	Excavation/Grading (Dry Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.11**

Table L1 -661. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM10 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
7	Riprap - Class 2																			
	Material Handling							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading							1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	Bulldozing							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**
8	Erosion Control Seeding																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	**1.06**	**1.06**	**1.06**	**7.65**	**7.65**	**8.71**	**8.71**	**8.71**	**8.71**	**8.71**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**	**1.06**
11 - Levees and Floodwalls																				
9	Mobilization and Demobilization																			
	Material Handling			n/a																
	Grading			n/a																
	Bulldozing			n/a																
	Unpaved Road Dust			n/a																
	Paved Road Dust			n/a																
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill																			
	Material Handling				4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12
	Grading				1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	Bulldozing				4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70
	Unpaved Road Dust			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Berm/Levee Fill Subtotal	--	--	--	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**
	11 - Levees and Floodwalls Total	--	--	--	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**	**9.88**
15 - Floodway Control and Diversion Structures																				
11	Mobilization and Demobilization																			
	Material Handling					n/a													n/a	
	Grading					n/a													n/a	
	Bulldozing					n/a													n/a	
	Unpaved Road Dust					n/a													n/a	
	Paved Road Dust					n/a													n/a	
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)																			
	Material Handling								n/a											
	Grading								n/a											
	Bulldozing								n/a											
	Unpaved Road Dust								n/a											
	Paved Road Dust								n/a											
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L1 -661. PM10 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
7	Riprap - Class 2										
	Material Handling										n/a
	Grading										0.04
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	--	--	--	**0.04**
8	Erosion Control Seeding										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust	n/a									n/a
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	--	--	--	--	--	--	--	--	**0.16**
11 - Levees and Floodwalls											
9	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust			n/a							n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill										
	Material Handling	4.12	4.12								0.20
	Grading	1.06	1.06								0.05
	Bulldozing	4.70	4.70								0.22
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust	n/a	n/a								n/a
	Berm/Levee Fill Subtotal	**9.88**	**9.88**	--	--	--	--	--	--	--	**0.47**
	11 - Levees and Floodwalls Total	**9.88**	**9.88**	--	--	--	--	--	--	--	**0.47**
15 - Floodway Control and Diversion Structures											
11	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--

Table L1 -661. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM10 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
13	Construction Site Dewatering (Pumping)																			
	Material Handling									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Grading									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Bulldozing									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Unpaved Road Dust									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Paved Road Dust									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)																			
	Material Handling						n/a	n/a			n/a									
	Grading						n/a	n/a			n/a									
	Bulldozing						n/a	n/a			n/a									
	Unpaved Road Dust						46.27	46.27			46.27									
	Paved Road Dust						--	--			--									
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	**46.27**	**46.27**	--	--	**46.27**	--	--	--	--	--	--	--	--	--
15	Sheet Pile Wall																			
	Material Handling											n/a								
	Grading											n/a								
	Bulldozing											n/a								
	Unpaved Road Dust											n/a								
	Paved Road Dust											n/a								
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall																			
	Material Handling												n/a							
	Grading												n/a							
	Bulldozing												n/a							
	Unpaved Road Dust												n/a							
	Paved Road Dust												n/a							
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'																			
	Material Handling													n/a						
	Grading													n/a						
	Bulldozing													n/a						
	Unpaved Road Dust													n/a						
	Paved Road Dust													n/a						
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure																			
	Material Handling														n/a					
	Grading														n/a					
	Bulldozing														n/a					
	Unpaved Road Dust														n/a					
	Paved Road Dust														n/a					
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates																			
	Material Handling															n/a	n/a	n/a		
	Grading															n/a	n/a	n/a		
	Bulldozing															n/a	n/a	n/a		
	Unpaved Road Dust															n/a	n/a	n/a		
	Paved Road Dust															n/a	n/a	n/a		
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	**46.27**	**46.27**	--	--	**46.27**	--	--	--	--	--	--	--	--	--

Table L1 -661. PM10 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions , tpy
13	Construction Site Dewatering (Pumping)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										0.33
	Paved Road Dust										--
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.33**
15	Sheet Pile Wall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	--	--	--	--	**0.33**

Table L1 -661. PM10 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM10 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
19 - Buildings, Grounds, and Utilities																				
20	Mobilization and Demobilization																			
	Material Handling	n/a						n/a												
	Grading	n/a						n/a												
	Bulldozing	n/a						n/a												
	Unpaved Road Dust	n/a						n/a												
	Paved Road Dust	n/a						n/a												
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction																			
	Material Handling		n/a	n/a	n/a	n/a	n/a													
	Grading		2.12	2.12	2.12	2.12	2.12													
	Bulldozing		2.35	2.35	2.35	2.35	2.35													
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a													
	Paved Road Dust		n/a	n/a	n/a	n/a	n/a													
	CMU Building and Earthwork Pad Construction Subtotal	--	**4.47**	**4.47**	**4.47**	**4.47**	**4.47**	--	--	--	--	--	--	--	--	--	--	--	--	--
22	Concrete Duct Bank																			
	Material Handling					n/a														
	Grading					n/a														
	Bulldozing					n/a														
	Unpaved Road Dust					n/a														
	Paved Road Dust					n/a														
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	**4.47**	**4.47**	**4.47**	**4.47**	**4.47**	--	--	--	--	--	--	--	--	--	--	--	--	--
20 -Permanent Operating Equipment																				
23	Mobilization and Demobilization																			
	Material Handling															n/a				
	Grading															n/a				
	Bulldozing															n/a				
	Unpaved Road Dust															n/a				
	Paved Road Dust															n/a				
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment																			
	Material Handling																n/a	n/a	n/a	
	Grading																n/a	n/a	n/a	
	Bulldozing																n/a	n/a	n/a	
	Unpaved Road Dust																n/a	n/a	n/a	
	Paved Road Dust																n/a	n/a	n/a	
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		--	**5.53**	**5.53**	**15.41**	**22.00**	**68.27**	**64.86**	**18.59**	**18.59**	**64.86**	**18.59**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**	**10.94**
Percent Reduction (Compared to Unmitigated)		*n/a*	*0%*	*0%*	*0%*	*0%*	*-49%*	*-51%*	*0%*	*0%*	*-51%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Table L1 -661. PM10 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
19 - Buildings, Grounds, and Utilities											
20	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction										
	Material Handling										n/a
	Grading										0.03
	Bulldozing										0.04
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	CMU Building and Earthwork Pad Construction Subtotal	--	--	--	--	--	--	--	--	--	**0.07**
22	Concrete Duct Bank										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	--	--	--	--	--	--	--	--	**0.07**
20 -Permanent Operating Equipment											
23	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust			n/a							n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust	n/a	n/a								n/a
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust	n/a	n/a								n/a
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		**9.88**	**9.88**	**0.53**	--	--	--	--	--	--	**1.03**
	Percent Reduction (Compared to Unmitigated)	*0%*	*0%*	*0%*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*-31%*

Table L1 -662. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM2.5 Daily Emissions Summary, lbs/day																	
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
02 - Relocations																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust	n/a																		
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Temporary Electrical Power																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust	n/a																		
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
09 - Channels and Canals																				
4	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust	n/a																		
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing																			
	Material Handling		n/a	n/a	n/a															
	Grading		0.11	0.11	0.11															
	Bulldozing		n/a	n/a	n/a															
	Unpaved Road Dust		n/a	n/a	n/a															
	Paved Road Dust		n/a	n/a	n/a															
	Clearing and Grubbing Subtotal	--	**0.11**	**0.11**	**0.11**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Excavation/Grading (Dry Conditions)																			
	Material Handling					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Grading					0.57	0.57	0.57	0.57	0.57	0.57	0.57								
	Bulldozing					1.29	1.29	1.29	1.29	1.29	1.29	1.29								
	Unpaved Road Dust					n/a	n/a	n/a	n/a	n/a	n/a	n/a								
	Paved Road Dust					--	--	--	--	--	--	--								
	Excavation/Grading (Dry Conditions) Subtotal	--	--	--	--	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	**1.86**	--	--	--	--	--	--	--	--

Table L1 -662. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
02 - Relocations											
1	Mobilization and Demobilization										
	Material Handling				n/a						n/a
	Grading				n/a						n/a
	Bulldozing				n/a						n/a
	Unpaved Road Dust				n/a						n/a
	Paved Road Dust				n/a						n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Levee O&M Road Regrading (6" AB)										
	Material Handling			n/a							n/a
	Grading			0.06							0.00
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust			n/a							n/a
	Levee O&M Road Regrading (6" AB) Subtotal	--	--	**0.06**	--	--	--	--	--	--	**0.00**
3	Temporary Electrical Power										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Temporary Electrical Power Subtotal	--	--	--	--	--	--	--	--	--	--
	02 - Relocations Total	--	--	**0.06**	--	--	--	--	--	--	**0.00**
09 - Channels and Canals											
4	Mobilization and Demobilization										
	Material Handling		n/a								n/a
	Grading		n/a								n/a
	Bulldozing		n/a								n/a
	Unpaved Road Dust		n/a								n/a
	Paved Road Dust		n/a								n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
5	Clearing and Grubbing										
	Material Handling										n/a
	Grading										0.00
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Clearing and Grubbing Subtotal	--	--	--	--	--	--	--	--	--	**0.00**
6	Excavation/Grading (Dry Conditions)										
	Material Handling										n/a
	Grading										0.01
	Bulldozing										0.02
	Unpaved Road Dust										n/a
	Paved Road Dust										--
	Excavation/Grading (Dry Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.03**

Table L1 -662. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
7	Riprap - Class 2																			
	Material Handling							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading							0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	Bulldozing							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust							n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**
8	Erosion Control Seeding																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	**0.11**	**0.11**	**0.11**	**1.86**	**1.86**	**1.98**	**1.98**	**1.98**	**1.98**	**1.98**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**
11 - Levees and Floodwalls																				
9	Mobilization and Demobilization																			
	Material Handling			n/a																
	Grading			n/a																
	Bulldozing			n/a																
	Unpaved Road Dust			n/a																
	Paved Road Dust			n/a																
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill																			
	Material Handling				0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
	Grading				0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	Bulldozing				2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58
	Unpaved Road Dust			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Berm/Levee Fill Subtotal	--	--	--	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**
	11 - Levees and Floodwalls Total	--	--	--	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**	**3.32**
15 - Floodway Control and Diversion Structures																				
11	Mobilization and Demobilization																			
	Material Handling					n/a													n/a	
	Grading					n/a													n/a	
	Bulldozing					n/a													n/a	
	Unpaved Road Dust					n/a													n/a	
	Paved Road Dust					n/a													n/a	
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)																			
	Material Handling								n/a											
	Grading								n/a											
	Bulldozing								n/a											
	Unpaved Road Dust								n/a											
	Paved Road Dust								n/a											
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table L1 -662. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
7	Riprap - Class 2										
	Material Handling										n/a
	Grading										0.00
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Riprap - Class 2 Subtotal	--	--	--	--	--	--	--	--	--	**0.00**
8	Erosion Control Seeding										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust	n/a									n/a
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	--	--	--	--	--	--	--	--	--	**0.03**
11 - Levees and Floodwalls											
9	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust			n/a							n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
10	Berm/Levee Fill										
	Material Handling	0.62	0.62								0.03
	Grading	0.11	0.11								0.01
	Bulldozing	2.58	2.58								0.12
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust	n/a	n/a								n/a
	Berm/Levee Fill Subtotal	**3.32**	**3.32**	--	--	--	--	--	--	--	**0.16**
	11 - Levees and Floodwalls Total	**3.32**	**3.32**	--	--	--	--	--	--	--	**0.16**
15 - Floodway Control and Diversion Structures											
11	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
12	Construction Site Dewatering (Temporary Cofferdam)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Construction Site Dewatering (Temporary Cofferdam) Sub	--	--	--	--	--	--	--	--	--	--

Table L1 -662. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
13	Construction Site Dewatering (Pumping)																			
	Material Handling									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Grading									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Bulldozing									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Unpaved Road Dust									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Paved Road Dust									n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)																			
	Material Handling						n/a	n/a			n/a									
	Grading						n/a	n/a			n/a									
	Bulldozing						n/a	n/a			n/a									
	Unpaved Road Dust						4.63	4.63			4.63									
	Paved Road Dust						--	--			--									
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	**4.63**	**4.63**	--	--	**4.63**	--	--	--	--	--	--	--	--	--
15	Sheet Pile Wall																			
	Material Handling											n/a								
	Grading											n/a								
	Bulldozing											n/a								
	Unpaved Road Dust											n/a								
	Paved Road Dust											n/a								
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall																			
	Material Handling												n/a							
	Grading												n/a							
	Bulldozing												n/a							
	Unpaved Road Dust												n/a							
	Paved Road Dust												n/a							
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'																			
	Material Handling													n/a						
	Grading													n/a						
	Bulldozing													n/a						
	Unpaved Road Dust													n/a						
	Paved Road Dust													n/a						
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure																			
	Material Handling														n/a					
	Grading														n/a					
	Bulldozing														n/a					
	Unpaved Road Dust														n/a					
	Paved Road Dust														n/a					
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates																			
	Material Handling															n/a	n/a	n/a		
	Grading															n/a	n/a	n/a		
	Bulldozing															n/a	n/a	n/a		
	Unpaved Road Dust															n/a	n/a	n/a		
	Paved Road Dust															n/a	n/a	n/a		
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	**4.63**	**4.63**	--	--	**4.63**	--	--	--	--	--	--	--	--	--

Table L1 -662. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions , tpy
13	Construction Site Dewatering (Pumping)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Construction Site Dewatering (Pumping) Subtotal	--	--	--	--	--	--	--	--	--	--
14	Excavation (Wet Conditions)										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										0.03
	Paved Road Dust										--
	Excavation (Wet Conditions) Subtotal	--	--	--	--	--	--	--	--	--	**0.03**
15	Sheet Pile Wall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Sheet Pile Wall Subtotal	--	--	--	--	--	--	--	--	--	--
16	Culvert Headwall										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Culvert Headwall Subtotal	--	--	--	--	--	--	--	--	--	--
17	Precast Box Culvert 10'x8' 30'										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Precast Box Culvert 10'x8' 30' Subtotal	--	--	--	--	--	--	--	--	--	--
18	Water Control Structure										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Water Control Structure Subtotal	--	--	--	--	--	--	--	--	--	--
19	Inflatable Obermeyer Gates										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Inflatable Obermeyer Gates Subtotal	--	--	--	--	--	--	--	--	--	--
	15 - Floodway Control and Diversion Structures Total	--	--	--	--	--	--	--	--	--	**0.03**

Table L1 -662. PM2.5 Emissions Summary from Fugitive Dust (Southern Water Control Structure) - Mitigated

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
19 - Buildings, Grounds, and Utilities																				
20	Mobilization and Demobilization																			
	Material Handling	n/a						n/a												
	Grading	n/a						n/a												
	Bulldozing	n/a						n/a												
	Unpaved Road Dust	n/a						n/a												
	Paved Road Dust	n/a						n/a												
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction																			
	Material Handling		n/a	n/a	n/a	n/a	n/a													
	Grading		0.23	0.23	0.23	0.23	0.23													
	Bulldozing		1.29	1.29	1.29	1.29	1.29													
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a													
	Paved Road Dust		n/a	n/a	n/a	n/a	n/a													
	CMU Building and Earthwork Pad Construction Subtotal	--	**1.52**	**1.52**	**1.52**	**1.52**	**1.52**	--	--	--	--	--	--	--	--	--	--	--	--	--
22	Concrete Duct Bank																			
	Material Handling					n/a														
	Grading					n/a														
	Bulldozing					n/a														
	Unpaved Road Dust					n/a														
	Paved Road Dust					n/a														
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	**1.52**	**1.52**	**1.52**	**1.52**	**1.52**	--	--	--	--	--	--	--	--	--	--	--	--	--
20 -Permanent Operating Equipment																				
23	Mobilization and Demobilization																			
	Material Handling															n/a				
	Grading															n/a				
	Bulldozing															n/a				
	Unpaved Road Dust															n/a				
	Paved Road Dust															n/a				
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment																			
	Material Handling																n/a	n/a	n/a	
	Grading																n/a	n/a	n/a	
	Bulldozing																n/a	n/a	n/a	
	Unpaved Road Dust																n/a	n/a	n/a	
	Paved Road Dust																n/a	n/a	n/a	
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment																			
	Material Handling																			
	Grading																			
	Bulldozing																			
	Unpaved Road Dust																			
	Paved Road Dust																			
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		--	**1.63**	**1.63**	**4.96**	**6.70**	**11.33**	**9.93**	**5.30**	**5.30**	**9.93**	**5.30**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**	**3.44**
Percent Reduction (Compared to Unmitigated)		*n/a*	*0%*	*0%*	*0%*	*0%*	*-37%*	*-40%*	*0%*	*0%*	*-40%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Table L1 -662. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions , tpy
19 - Buildings, Grounds, and Utilities											
20	Mobilization and Demobilization										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
21	CMU Building and Earthwork Pad Construction										
	Material Handling										n/a
	Grading										0.00
	Bulldozing										0.02
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	CMU Building and Earthwork Pad Construction Subtotal	--	--	--	--	--	--	--	--	--	**0.02**
22	Concrete Duct Bank										
	Material Handling										n/a
	Grading										n/a
	Bulldozing										n/a
	Unpaved Road Dust										n/a
	Paved Road Dust										n/a
	Concrete Duct Bank Subtotal	--	--	--	--	--	--	--	--	--	--
	19 - Buildings, Grounds, and Utilities Total	--	--	--	--	--	--	--	--	--	**0.02**
20 -Permanent Operating Equipment											
23	Mobilization and Demobilization										
	Material Handling			n/a							n/a
	Grading			n/a							n/a
	Bulldozing			n/a							n/a
	Unpaved Road Dust			n/a							n/a
	Paved Road Dust			n/a							n/a
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
24	Power, Electrical, & Mechanical Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust	n/a	n/a								n/a
	Power, Electrical, & Mechanical Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
25	Communication Equipment										
	Material Handling	n/a	n/a								n/a
	Grading	n/a	n/a								n/a
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust	n/a	n/a								n/a
	Communication Equipment Subtotal	--	--	--	--	--	--	--	--	--	--
	20 -Permanent Operating Equipment Total	--	--	--	--	--	--	--	--	--	--
GRAND TOTAL		**3.32**	**3.32**	**0.06**	--	--	--	--	--	--	**0.25**
Percent Reduction (Compared to Unmitigated)		*0%*	*0%*	*0%*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*-16%*

Southern Water Control Structure
Fugitive Dust Emissions - Unpaved Road Dust (Haul Roads)

Equation (AP-42, Chapter 13.2.2):

$$E = k(s/12)^a(W/3)^b$$

where:
E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)

Variables

k (PM10)	1.5	
k (PM2.5)	0.15	
a	0.9	
b	0.45	
s, %	1.6	crushed limestone (AP-42, Table 13.2.4-1)
W, tons	180	loaded
	74	unloaded

Table L1-663. Mitigated Unpaved Road Dust Emission Factors (lb/VMT)

Weight	PM10	PM2.5
Loaded	1.54	0.15
Unloaded	1.04	0.10
Average	1.29	0.13

Table L1-664. Mitigated Unpaved Road Dust Emissions (Southern Water Control Structure)

Activity	Total Daily Output	Total Quantity	Unit	Estimated Duration, Days	VMT per Day	VMT per Year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
15 - Floodway Control and Diversion Structures										
Excavation (Wet Conditions)	1,800	25,960	CY	15	92	1,300	46.3	4.6	0.3	0.03

Notes:
Assumes payload of each truck is 100 tons.
Half of truck trips will be loaded and other half will be unloaded.
Only includes materials that will be transported to spoil site by dump trucks.

Distance to borrow area

2 miles (spoils site located within a 1-mile radius of the project access point(s); average of 1 mile travel distance from point of excavation)

Density

1.25 tons/cy

Note: CalEEMod assumes haul trucks can handle 20 tons or 16 cy.

Dust Control

61% reduction from watering at least 3 times per day

Source: CalEEMod

Offroad Exhaust Emissions Summary

Table L1-665. Maximum Daily Offroad Construction Equipment Emissions (River Grading Site)

Phase	ROG lbs/day	NOx lbs/day	CO lbs/day	SO2 lbs/day	PM10 lbs/day	PM2.5 lbs/day
09 - Channels and Canals	12.62	105.29	52.24	0.24	2.34	1.63
Peak Day Construction Exhaust Emissions Total	**12.62**	**105.29**	**52.24**	**0.24**	**2.34**	**1.63**

Notes:

Construction total will not add to the sum of each phase because not all tasks overlap on the same day.

Table L1-666. Annual Offroad Construction Equipment Emissions (River Grading Site)

Phase	ROG tpy	NOx tpy	CO tpy	SO2 tpy	PM10 tpy	PM2.5 tpy	CO2e MT/yr
09 - Channels and Canals	0.11	1.22	0.86	0.00	0.04	0.03	417.33
Annual Construction Exhaust Emissions Total	**0.11**	**1.22**	**0.86**	**0.00**	**0.04**	**0.03**	**417.33**

Notes:

Total may not add exactly because of rounding.

Table L1-667. ROG Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Unmitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emissio n Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	3.1225	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.0580	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				1.4797	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0451	g/hp-hr
												Mobilization and Demobilization Subtotal	
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.2384	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0754	g/hp-hr
				Chainsaw	Chainsaws	1	8					72.5631	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					3.1225	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.4797	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					6.9998	g/hr
												Clearing and Grubbing Subtotal	
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0451	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.1608	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.1035	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					6.9998	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.4797	g/hr
												Excavation (From Bank) Subtotal	
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0451	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.4797	g/hr
												Excavation/Dredging (From Barge) Subtotal	
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0451	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.1004	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					6.9998	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					1.4797	g/hr
												Riprap - Graded Stone 'C' Subtotal	
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.0901	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.4797	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
GRAND TOTAL													

Table L1-667. ROG Exhaust Emissions from C

#	Activity	Maximum Daily Emissions, lbs/day																						
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep
09 - Channels and Canals																								
1	Mobilization and Demobilization	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.58	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	10.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.65	**10.57**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--
		--	--	0.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.74	--
		--	--	0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18	--
		--	**2.04**	**1.52**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.52**	**--**
4	Excavation/Dredging (From Barge)	--	--	0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--
		--	--	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--
		--	**--**	**0.50**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.50**	**--**
5	Riprap - Graded Stone 'C'	--	--	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	--
		--	--	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	--
		--	--	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	--
		--	--	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	--
		--	**--**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**3.91**	**--**
6	Erosion Control Seeding	--	--	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	0.10
		--	**--**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.26**	**0.10**
		1.23	**12.62**	**6.09**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**6.19**	**0.10**
GRAND TOTAL		**1.23**	**12.62**	**6.09**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**4.06**	**6.19**	**0.10**

Table L1-667. ROG Exhaust Emissions from C

#	Activity	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals								
1	Mobilization and Demobilization	--	--	0.06	--	--	--	0.0001
		--	--	0.10	--	--	--	0.0001
		--	--	0.03	--	--	--	0.0000
		--	--	--	--	--	--	0.0000
		--	--	0.40	--	--	--	0.0004
		--	**--**	**0.58**	**--**	**--**	**--**	**0.0006**
2	Clearing and Grubbing	--	--	0.46	--	--	--	0.0009
		--	--	0.19	--	--	--	0.0004
		--	--	--	--	--	--	0.0205
		--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	0.0002
		--	**--**	**0.65**	**--**	**--**	**--**	**0.0224**
3	Excavation (From Bank)	--	--	--	--	--	--	0.0017
		--	--	--	--	--	--	0.0085
		--	--	--	--	--	--	0.0030
		--	--	--	--	--	--	0.0037
		--	--	--	--	--	--	0.0009
		--	**--**	**--**	**--**	**--**	**--**	**0.0178**
4	Excavation/Dredging (From Barge)	--	--	--	--	--	--	0.0220
		--	--	--	--	--	--	0.0058
		--	**--**	**--**	**--**	**--**	**--**	**0.0278**
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	0.0037
		--	--	--	--	--	--	0.0048
		--	--	--	--	--	--	0.0256
		--	--	--	--	--	--	0.0012
		--	**--**	**--**	**--**	**--**	**--**	**0.0352**
6	Erosion Control Seeding	--	--	--	--	--	--	0.0012
		0.10	--	--	--	--	--	0.0008
		0.10	**--**	**--**	**--**	**--**	**--**	**0.0021**
		0.10	**--**	**1.23**	**--**	**--**	**--**	**0.1059**
GRAND TOTAL		**0.10**	**0.00**	**1.23**	**0.00**	**0.00**	**0.00**	**0.1059**

Table L1-668. NOx Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Unmitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	73.7154	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.9187	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				1.6515	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.5086	g/hp-hr
											Mobilization and Demobilization Subtotal		
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	2.4260	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.7727	g/hp-hr
				Chainsaw	Chainsaws	1	8					1.2873	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					73.7154	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.6515	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					155.9699	g/hr
											Clearing and Grubbing Subtotal		
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.5086	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					2.0086	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					1.1284	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					155.9699	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.6515	g/hr
											Excavation (From Bank) Subtotal		
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.5086	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.6515	g/hr
											Excavation/Dredging (From Barge) Subtotal		
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.5086	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					1.4049	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					155.9699	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					1.6515	g/hr
											Riprap - Graded Stone 'C' Subtotal		
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	1.1037	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.6515	g/hr
											Erosion Control Seeding Subtotal		
												09 - Channels and Canals Total	
GRAND TOTAL													

Table L1-668. NOx Exhaust Emissions from O

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	1.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		4.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		7.43	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	4.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	2.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		6.61	**4.41**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	3.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	21.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	6.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	16.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**25.10**	**23.24**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	4.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**4.59**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61
		--	--	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43
		--	--	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27	63.27
		--	--	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
		--	**--**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**	**75.46**
6	Erosion Control Seeding	--	--	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**	**1.89**
		14.04	**29.51**	**105.17**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**
GRAND TOTAL		**14.04**	**29.51**	**105.17**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**	**77.35**

Table L1-668. NOx Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	1.30	--	--	--	0.0013
		--	--	--	--	1.62	--	--	--	0.0016
		--	--	--	--	0.03	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	4.48	--	--	--	0.0045
		--	**--**	**--**	**--**	**7.43**	**--**	**--**	**--**	**0.0074**
2	Clearing and Grubbing	--	--	--	--	4.71	--	--	--	0.0094
		--	--	--	--	1.91	--	--	--	0.0038
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0026
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0055
		--	**--**	**--**	**--**	**6.61**	**--**	**--**	**--**	**0.0220**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0192
		--	--	--	--	--	--	--	--	0.1063
		6.53	--	--	--	--	--	--	--	0.0326
		16.50	--	--	--	--	--	--	--	0.0825
		0.20	--	--	--	--	--	--	--	0.0010
		23.24	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.2417**
4	Excavation/Dredging (From Barge)	4.48	--	--	--	--	--	--	--	0.2484
		0.12	--	--	--	--	--	--	--	0.0065
		4.59	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.2549**
5	Riprap - Graded Stone 'C'	4.61	--	--	--	--	--	--	--	0.0415
		7.43	--	--	--	--	--	--	--	0.0669
		63.27	--	--	--	--	--	--	--	0.5694
		0.15	--	--	--	--	--	--	--	0.0013
		75.46	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.6791**
6	Erosion Control Seeding	1.89	--	--	--	--	--	--	--	0.0151
		0.12	0.12	0.12	--	--	--	--	--	0.0009
		2.00	**0.12**	**0.12**	**--**	**--**	**--**	**--**	**--**	**0.0160**
		105.29	**0.12**	**0.12**	**--**	**14.04**	**--**	**--**	**--**	**1.2212**
GRAND TOTAL		**105.29**	**0.12**	**0.12**	**0.00**	**14.04**	**0.00**	**0.00**	**0.00**	**1.2212**

Table L1-669. CO Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Unmitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	12.0888	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				2.2556	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				12.8680	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.6321	g/hp-hr
												Mobilization and Demobilization Subtotal	
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	2.5463	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					1.1116	g/hp-hr
				Chainsaw	Chainsaws	1	8					146.1720	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					12.0888	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					12.8680	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					34.6908	g/hr
												Clearing and Grubbing Subtotal	
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.6321	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					1.1166	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					1.7927	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					34.6908	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					12.8680	g/hr
												Excavation (From Bank) Subtotal	
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.6321	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					12.8680	g/hr
												Excavation/Dredging (From Barge) Subtotal	
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.6321	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.9049	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					34.6908	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					12.8680	g/hr
												Riprap - Graded Stone 'C' Subtotal	
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	2.0507	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					12.8680	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
GRAND TOTAL													

Table L1-669. CO Exhaust Emissions from Off

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		3.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		5.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		9.98	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	4.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		2.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	20.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		7.68	**22.81**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	4.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	11.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	10.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	3.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	1.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**16.60**	**15.63**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	5.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**6.47**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73	5.73
		--	--	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79
		--	--	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07	14.07
		--	--	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
		--	**--**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**	**25.72**
6	Erosion Control Seeding	--	--	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**	**3.51**
		17.67	**39.41**	**51.33**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**
GRAND TOTAL		**17.67**	**39.41**	**51.33**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**	**29.23**

Table L1-669. CO Exhaust Emissions from Of

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.21	--	--	--	0.0002
		--	--	--	--	3.98	--	--	--	0.0040
		--	--	--	--	0.23	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	5.56	--	--	--	0.0056
		--	**--**	**--**	**--**	**9.98**	**--**	**--**	**--**	**0.0100**
2	Clearing and Grubbing	--	--	--	--	4.94	--	--	--	0.0099
		--	--	--	--	2.74	--	--	--	0.0055
		--	--	--	--	--	--	--	--	0.0412
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0027
		--	--	--	--	--	--	--	--	0.0012
		--	**--**	**--**	**--**	**7.68**	**--**	**--**	**--**	**0.0610**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0239
		--	--	--	--	--	--	--	--	0.0591
		10.37	--	--	--	--	--	--	--	0.0519
		3.67	--	--	--	--	--	--	--	0.0184
		1.59	--	--	--	--	--	--	--	0.0079
		15.63	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1611**
4	Excavation/Dredging (From Barge)	5.56	--	--	--	--	--	--	--	0.3087
		0.91	--	--	--	--	--	--	--	0.0504
		6.47	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.3591**
5	Riprap - Graded Stone 'C'	5.73	--	--	--	--	--	--	--	0.0516
		4.79	--	--	--	--	--	--	--	0.0431
		14.07	--	--	--	--	--	--	--	0.1266
		1.13	--	--	--	--	--	--	--	0.0102
		25.72	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.2315**
6	Erosion Control Seeding	3.51	--	--	--	--	--	--	--	0.0281
		0.91	0.91	0.91	--	--	--	--	--	0.0073
		4.42	**0.91**	**0.91**	**--**	**--**	**--**	**--**	**--**	**0.0353**
		52.24	**0.91**	**0.91**	**--**	**17.67**	**--**	**--**	**--**	**0.8581**
GRAND TOTAL		**52.24**	**0.91**	**0.91**	**0.00**	**17.67**	**0.00**	**0.00**	**0.00**	**0.8581**

Table L1-670. SO2 Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Unmitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.1721	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				0.0474	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0032	g/hp-hr
											Mobilization and Demobilization Subtotal		
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.0043	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0026	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.0163	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.1721	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.0474	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					0.2281	g/hr
											Clearing and Grubbing Subtotal		
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0032	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0033	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0035	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					0.2281	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.0474	g/hr
											Excavation (From Bank) Subtotal		
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0032	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.0474	g/hr
											Excavation/Dredging (From Barge) Subtotal		
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0032	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0036	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					0.2281	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.0474	g/hr
											Riprap - Graded Stone 'C' Subtotal		
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.0037	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.0474	g/hr
											Erosion Control Seeding Subtotal		
											09 - Channels and Canals Total		
GRAND TOTAL													

Table L1-670. SO2 Exhaust Emissions from O

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.04	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.06**	**0.05**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
		--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
		--	--	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
		--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		--	**--**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**
6	Erosion Control Seeding	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
		0.05	**0.07**	**0.23**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**
GRAND TOTAL		**0.05**	**0.07**	**0.23**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**

Table L1-670. SO2 Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.00	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	0.00	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	0.03	--	--	--	0.0000
		--	**--**	**--**	**--**	**0.04**	**--**	**--**	**--**	**0.0000**
2	Clearing and Grubbing	--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**0.01**	**--**	**--**	**--**	**0.0001**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0002
		0.02	--	--	--	--	--	--	--	0.0001
		0.02	--	--	--	--	--	--	--	0.0001
		0.01	--	--	--	--	--	--	--	0.0000
		0.05	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0005**
4	Excavation/Dredging (From Barge)	0.03	--	--	--	--	--	--	--	0.0016
		0.00	--	--	--	--	--	--	--	0.0002
		0.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0017**
5	Riprap - Graded Stone 'C'	0.03	--	--	--	--	--	--	--	0.0003
		0.02	--	--	--	--	--	--	--	0.0002
		0.09	--	--	--	--	--	--	--	0.0008
		0.00	--	--	--	--	--	--	--	0.0000
		0.14	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0013**
6	Erosion Control Seeding	0.01	--	--	--	--	--	--	--	0.0001
		0.00	0.00	0.00	--	--	--	--	--	0.0000
		0.01	**0.00**	**0.00**	**--**	**--**	**--**	**--**	**--**	**0.0001**
		0.24	**0.00**	**0.00**	**--**	**0.05**	**--**	**--**	**--**	**0.0038**
GRAND TOTAL		**0.24**	**0.00**	**0.00**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.0038**

Table L1-671. PM10 Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Unmitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.4742	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.0356	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				0.8623	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0170	g/hp-hr
										Mobilization and Demobilization Subtotal			
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.1997	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0303	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.2300	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.4742	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.8623	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					1.8973	g/hr
											Clearing and Grubbing Subtotal		
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0170	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0917	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0617	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					1.8973	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.8623	g/hr
											Excavation (From Bank) Subtotal		
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0170	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.8623	g/hr
											Excavation/Dredging (From Barge) Subtotal		
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0170	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0553	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					1.8973	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.8623	g/hr
											Riprap - Graded Stone 'C' Subtotal		
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.0651	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.8623	g/hr
											Erosion Control Seeding Subtotal		
												09 - Channels and Canals Total	
GRAND TOTAL													

Table L1-671. PM10 Exhaust Emissions from (

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.27	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.46	**0.20**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**1.10**	**0.66**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.21**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
		--	--	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
		--	--	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
		--	--	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		--	**--**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**	**1.29**
6	Erosion Control Seeding	--	--	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**
		0.73	**1.30**	**2.28**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**
GRAND TOTAL		**0.73**	**1.30**	**2.28**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**	**1.40**

Table L1-671. PM10 Exhaust Emissions from (

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.04	--	--	--	0.0000
		--	--	--	--	0.06	--	--	--	0.0001
		--	--	--	--	0.02	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	0.15	--	--	--	0.0001
		--	**--**	**--**	**--**	**0.27**	**--**	**--**	**--**	**0.0003**
2	Clearing and Grubbing	--	--	--	--	0.39	--	--	--	0.0008
		--	--	--	--	0.07	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**0.46**	**--**	**--**	**--**	**0.0013**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0049
		0.36	--	--	--	--	--	--	--	0.0018
		0.20	--	--	--	--	--	--	--	0.0010
		0.11	--	--	--	--	--	--	--	0.0005
		0.66	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0088**
4	Excavation/Dredging (From Barge)	0.15	--	--	--	--	--	--	--	0.0083
		0.06	--	--	--	--	--	--	--	0.0034
		0.21	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0117**
5	Riprap - Graded Stone 'C'	0.15	--	--	--	--	--	--	--	0.0014
		0.29	--	--	--	--	--	--	--	0.0026
		0.77	--	--	--	--	--	--	--	0.0069
		0.08	--	--	--	--	--	--	--	0.0007
		1.29	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0116**
6	Erosion Control Seeding	0.11	--	--	--	--	--	--	--	0.0009
		0.06	0.06	0.06	--	--	--	--	--	0.0005
		0.17	**0.06**	**0.06**	**--**	**--**	**--**	**--**	**--**	**0.0014**
		2.34	**0.06**	**0.06**	**--**	**0.73**	**--**	**--**	**--**	**0.0351**
GRAND TOTAL		**2.34**	**0.06**	**0.06**	**0.00**	**0.73**	**0.00**	**0.00**	**0.00**	**0.0351**

Table L1-672. PM2.5 Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Unmitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	1.2073	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.0327	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				0.4490	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0157	g/hp-hr
											Mobilization and Demobilization Subtotal		
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.1837	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0279	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.2116	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					1.2073	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.4490	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					0.9593	g/hr
											Clearing and Grubbing Subtotal		
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0157	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0844	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0568	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					0.9593	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.4490	g/hr
											Excavation (From Bank) Subtotal		
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0157	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.4490	g/hr
											Excavation/Dredging (From Barge) Subtotal		
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0157	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0509	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					0.9593	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.4490	g/hr
											Riprap - Graded Stone 'C' Subtotal		
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.0599	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.4490	g/hr
											Erosion Control Seeding Subtotal		
											09 - Channels and Canals Total		
GRAND TOTAL													

Table L1-672. PM2.5 Exhaust Emissions from

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.22	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.43	**0.12**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**1.01**	**0.49**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.17**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
		--	--	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
		--	--	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
		--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
		--	**--**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**	**0.84**
6	Erosion Control Seeding	--	--	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**
		0.65	**1.13**	**1.60**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**
GRAND TOTAL		**0.65**	**1.13**	**1.60**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**	**0.94**

Table L1-672. PM2.5 Exhaust Emissions from

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.02	--	--	--	0.0000
		--	--	--	--	0.06	--	--	--	0.0001
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	0.14	--	--	--	0.0001
		--	**--**	**--**	**--**	**0.22**	**--**	**--**	**--**	**0.0002**
2	Clearing and Grubbing	--	--	--	--	0.36	--	--	--	0.0007
		--	--	--	--	0.07	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**0.43**	**--**	**--**	**--**	**0.0011**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0006
		--	--	--	--	--	--	--	--	0.0045
		0.33	--	--	--	--	--	--	--	0.0016
		0.10	--	--	--	--	--	--	--	0.0005
		0.06	--	--	--	--	--	--	--	0.0003
		0.49	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0075**
4	Excavation/Dredging (From Barge)	0.14	--	--	--	--	--	--	--	0.0076
		0.03	--	--	--	--	--	--	--	0.0018
		0.17	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0094**
5	Riprap - Graded Stone 'C'	0.14	--	--	--	--	--	--	--	0.0013
		0.27	--	--	--	--	--	--	--	0.0024
		0.39	--	--	--	--	--	--	--	0.0035
		0.04	--	--	--	--	--	--	--	0.0004
		0.84	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0076**
6	Erosion Control Seeding	0.10	--	--	--	--	--	--	--	0.0008
		0.03	0.03	0.03	--	--	--	--	--	0.0003
		0.13	**0.03**	**0.03**	**--**	**--**	**--**	**--**	**--**	**0.0011**
		1.63	**0.03**	**0.03**	**--**	**0.65**	**--**	**--**	**--**	**0.0268**
GRAND TOTAL		**1.63**	**0.03**	**0.03**	**0.00**	**0.65**	**0.00**	**0.00**	**0.00**	**0.0268**

Table L1-673. GHG Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Unmitigated

												Emission Factors					
#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	CO2	CH4	N2O	CO2e	Units	Annual Emissions, MTCO2e/yr
09 - Channels and Canals																	
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	24743.4	0	0	24743.4	g/hr	0.40
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				340.986	0.02272	0	341.554	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				8716.75	0	0	8716.75	g/hr	0.14
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0	0	0	0	g/hr	0.00
				Barge Mounted Excavator	Excavators	1	499	-				323.936	0.01421	0	324.292	g/hp-hr	2.59
												Mobilization and Demobilization Subtotal					**3.67**
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	363.718	0.03898	0	364.692	g/hp-hr	1.28
				Trailer Mounted Brush Chipper	Shredders	1	140					227.324	0.0068	0	227.494	g/hp-hr	1.02
				Chainsaw	Chainsaws	1	8					395.091	0	0	395.091	g/hp-hr	0.10
				4000 gallon Water Truck	n/a - onroad	1	MHDT					24743.4	0	0	24743.4	g/hr	0.79
				Pickup Truck Conventional	n/a - onroad	6	LDT2					8716.75	0	0	8716.75	g/hr	1.67
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					36496.5	0	0	36496.5	g/hr	1.17
												Clearing and Grubbing Subtotal					**6.04**
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	323.936	0.01421	0	324.292	g/hp-hr	11.13
				300 HP Dozer	Rubber Tired Dozers	2	300					335.303	0.02493	0	335.926	g/hp-hr	16.12
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					306.887	0.01857	0	307.351	g/hp-hr	8.06
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					36496.5	0	0	36496.5	g/hr	17.52
				Pickup Truck Conventional	n/a - onroad	7	LDT2					8716.75	0	0	8716.75	g/hr	4.88
												Excavation (From Bank) Subtotal					**57.72**
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	323.936	0.01421	0	324.292	g/hp-hr	143.70
				Pickup Truck Conventional	n/a - onroad	4	LDT2					8716.75	0	0	8716.75	g/hr	30.96
												Excavation/Dredging (From Barge) Subtotal					**174.66**
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	323.936	0.01421	0	324.292	g/hp-hr	24.00
				300 HP Dozer Crawler	Crawler Tractors	1	300					363.718	0.02114	0	364.246	g/hp-hr	15.74
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					36496.5	0	0	36496.5	g/hr	120.88
				Pickup Truck Conventional	n/a - onroad	5	LDT2					8716.75	0	0	8716.75	g/hr	6.28
												Riprap - Graded Stone 'C' Subtotal					**166.89**
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	312.57	0.01854	0	313.034	g/hp-hr	3.89
				Pickup Truck Conventional	n/a - onroad	4	LDT2					8716.75	0	0	8716.75	g/hr	4.46
												Erosion Control Seeding Subtotal					**8.35**
																09 - Channels and Canals Total	**417.33**
GRAND TOTAL																	**417.33**

Construction Worker Commuting Exhaust Emissions Summary

Table L1-674. Maximum Daily Construction Worker Commuting Emissions (River Grading Site)

Phase	ROG lbs/day	NOx lbs/day	CO lbs/day	SO2 lbs/day	PM10 lbs/day	PM2.5 lbs/day
09 - Channels and Canals	0.09	0.44	4.41	0.02	1.97	0.53
Peak Day Construction Exhaust Emissions Total	**0.09**	**0.44**	**4.41**	**0.02**	**1.97**	**0.53**

Notes:
Construction total will not add to the sum of each phase because not all tasks overlap on the same day.
PM10 and PM2.5 emissions include exhaust, tire wear, brake wear, and paved road dust.

Table L1-675. Annual Construction Worker Commuting Emissions (River Grading Site)

Phase	ROG tpy	NOx tpy	CO tpy	SO2 tpy	PM10 tpy	PM2.5 tpy	CO2e MT/yr
09 - Channels and Canals	0.00	0.01	0.11	0.00	0.05	0.01	45.18
Annual Construction Exhaust Emissions Total	**0.00**	**0.01**	**0.11**	**0.00**	**0.05**	**0.01**	**45.18**

Notes:
Total may not add exactly because of rounding.
PM10 and PM2.5 emissions include exhaust, tire wear, brake wear, and paved road dust.

Table L1-676. ROG Emissions from Construction Worker Commuting (River Grading Site)

				Maximum Daily Emissions, lbs/day																		
#	Activity	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																						
1	Mobilization and Demobilization	2	1.55E-02	0.0307	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing	4	1.55E-02	--	0.0184	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)	10	1.55E-02	--	--	0.0410	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dreding (From Barge)	111	1.55E-02	--	--	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307	0.0307
5	Riprap - Graded Stone 'C'	18	1.55E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Erosion Control Seeding	16	1.55E-02	--	--	--	0.0082	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total			**--**	**--**	**0.0307**	**0.0389**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**
GRAND TOTAL				**--**	**--**	**0.0307**	**0.0389**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**	**0.0307**

Table L1-676. ROG Emissions from C

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization	--	--	--	--	--	0.0307	--	--	--	0.0000
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	0.0000
3	Excavation (From Bank)	--	0.0410	--	--	--	--	--	--	--	0.0002
4	Excavation/Dreding (From Barge)	0.0307	0.0307	--	--	--	--	--	--	--	0.0017
5	Riprap - Graded Stone 'C'	--	0.0574	0.0574	0.0574	--	--	--	--	--	0.0005
6	Erosion Control Seeding	--	--	--	0.0082	0.0082	--	--	--	--	0.0001
	09 - Cha	**0.0307**	**0.0881**	**0.0574**	**0.0656**	**0.0082**	**--**	**--**	**--**	**--**	**0.0023**
GRAND TOTAL		**0.0307**	**0.0881**	**0.0574**	**0.0656**	**0.0082**	**--**	**--**	**--**	**--**	**0.0023**

Table L1-677. NOx Emissions from Construction Worker Commuting (River Grading Site)

				Maximum Daily Emissions, lbs/day																			
#	Activity	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																							
1	Mobilization and Demobilization	2	7.71E-02	0.1530	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing	4	7.71E-02	--	0.0918	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)	10	7.71E-02	--	--	0.2040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dreding (From Barge)	111	7.71E-02	--	--	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530
5	Riprap - Graded Stone 'C'	18	7.71E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Erosion Control Seeding	16	7.71E-02	--	--	--	0.0408	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total			**--**	**--**	**0.1530**	**0.1938**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**
GRAND TOTAL				**--**	**--**	**0.1530**	**0.1938**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**	**0.1530**

Table L1-677. NOx Emissions from Co

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization	--	--	--	--	--	0.1530	--	--	--	0.0002
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	0.0002
3	Excavation (From Bank)	--	0.2040	--	--	--	--	--	--	--	0.0010
4	Excavation/Dreding (From Barge)	0.1530	0.1530	--	--	--	--	--	--	--	0.0085
5	Riprap - Graded Stone 'C'	--	0.2856	0.2856	0.2856	--	--	--	--	--	0.0026
6	Erosion Control Seeding	--	--	--	0.0408	0.0408	--	--	--	--	0.0003
	09 - Cha	**0.1530**	**0.4387**	**0.2856**	**0.3264**	**0.0408**	**--**	**--**	**--**	**--**	**0.0114**
GRAND TOTAL		**0.1530**	**0.4387**	**0.2856**	**0.3264**	**0.0408**	**--**	**--**	**--**	**--**	**0.0114**

Table L1-678. CO Emissions from Construction Worker Commuting (River Grading Site)

				Maximum Daily Emissions, lbs/day																		
#	Activity	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																						
1	Mobilization and Demobilization	2	7.76E-01	1.5388	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing	4	7.76E-01	--	0.9233	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)	10	7.76E-01	--	--	2.0517	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dreding (From Barge)	111	7.76E-01	--	--	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388	1.5388
5	Riprap - Graded Stone 'C'	18	7.76E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Erosion Control Seeding	16	7.76E-01	--	--	--	0.4103	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total			**--**	**--**	**1.5388**	**1.9491**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**
GRAND TOTAL				**--**	**--**	**1.5388**	**1.9491**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**	**1.5388**

26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
--	--	--	--	--	1.5388	--	--	--	0.0015
--	--	--	--	--	--	--	--	--	0.0018
--	2.0517	--	--	--	--	--	--	--	0.0103
1.5388	1.5388	--	--	--	--	--	--	--	0.0854
--	2.8724	2.8724	2.8724	--	--	--	--	--	0.0259
--	--	--	0.4103	0.4103	--	--	--	--	0.0033
1.5388	**4.4112**	**2.8724**	**3.2827**	**0.4103**	**--**	**--**	**--**	**--**	**0.1145**
1.5388	**4.4112**	**2.8724**	**3.2827**	**0.4103**	**--**	**--**	**--**	**--**	**0.1145**

Table L1-679. SOx Emissions from Construction Worker Commuting (River Grading Site)

				Maximum Daily Emissions, lbs/day																		
#	Activity	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																						
1	Mobilization and Demobilization	2	3.02E-03	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing	4	3.02E-03	--	0.0036	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)	10	3.02E-03	--	--	0.0080	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dreding (From Barge)	111	3.02E-03	--	--	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
5	Riprap - Graded Stone 'C'	18	3.02E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Erosion Control Seeding	16	3.02E-03	--	--	--	0.0016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total			**--**	**--**	**0.0060**	**0.0076**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**
GRAND TOTAL				**--**	**--**	**0.0060**	**0.0076**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**	**0.0060**

Table L1-679. SOx Emissions from Cc

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization	--	--	--	--	--	0.0060	--	--	--	0.0000
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	0.0000
3	Excavation (From Bank)	--	0.0080	--	--	--	--	--	--	--	0.0000
4	Excavation/Dreding (From Barge)	0.0060	0.0060	--	--	--	--	--	--	--	0.0003
5	Riprap - Graded Stone 'C'	--	0.0112	0.0112	0.0112	--	--	--	--	--	0.0001
6	Erosion Control Seeding	--	--	--	0.0016	0.0016	--	--	--	--	0.0000
	09 - Cha	**0.0060**	**0.0172**	**0.0112**	**0.0128**	**0.0016**	**--**	**--**	**--**	**--**	**0.0004**
GRAND TOTAL		**0.0060**	**0.0172**	**0.0112**	**0.0128**	**0.0016**	**--**	**--**	**--**	**--**	**0.0004**

Table L1-680. PM10 Emissions from Construction Worker Commuting (River Grading Site)

				Maximum Daily Emissions, lbs/day																		
#	Activity	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																						
1	Mobilization and Demobilization	2	3.47E-01	0.6875	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing	4	3.47E-01	--	0.4125	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)	10	3.47E-01	--	--	0.9167	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dreding (From Barge)	111	3.47E-01	--	--	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875	0.6875
5	Riprap - Graded Stone 'C'	18	3.47E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Erosion Control Seeding	16	3.47E-01	--	--	--	0.1833	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total			**--**	**--**	**0.6875**	**0.8708**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**
GRAND TOTAL				**--**	**--**	**0.6875**	**0.8708**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**	**0.6875**

Table L1-680. PM10 Emissions from C

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization	--	--	--	--	--	0.6875	--	--	--	0.0007
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	0.0008
3	Excavation (From Bank)	--	0.9167	--	--	--	--	--	--	--	0.0046
4	Excavation/Dreding (From Barge)	0.6875	0.6875	--	--	--	--	--	--	--	0.0382
5	Riprap - Graded Stone 'C'	--	1.2834	1.2834	1.2834	--	--	--	--	--	0.0116
6	Erosion Control Seeding	--	--	--	0.1833	0.1833	--	--	--	--	0.0015
	09 - Cha	**0.6875**	**1.9709**	**1.2834**	**1.4667**	**0.1833**	**--**	**--**	**--**	**--**	**0.0512**
GRAND TOTAL		**0.6875**	**1.9709**	**1.2834**	**1.4667**	**0.1833**	**--**	**--**	**--**	**--**	**0.0512**

Table L1-681. PM2.5 Emissions from Construction Worker Commuting (River Grading Site)

				Maximum Daily Emissions, lbs/day																		
#	Activity	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																						
1	Mobilization and Demobilization	2	9.31E-02	0.1847	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing	4	9.31E-02	--	0.1108	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)	10	9.31E-02	--	--	0.2463	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dreding (From Barge)	111	9.31E-02	--	--	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847	0.1847
5	Riprap - Graded Stone 'C'	18	9.31E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Erosion Control Seeding	16	9.31E-02	--	--	--	0.0493	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total			**--**	**--**	**0.1847**	**0.2340**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**
GRAND TOTAL				**--**	**--**	**0.1847**	**0.2340**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**	**0.1847**

Table L1-681. PM2.5 Emissions from (

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization	--	--	--	--	--	0.1847	--	--	--	0.0002
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	0.0002
3	Excavation (From Bank)	--	0.2463	--	--	--	--	--	--	--	0.0012
4	Excavation/Dreding (From Barge)	0.1847	0.1847	--	--	--	--	--	--	--	0.0103
5	Riprap - Graded Stone 'C'	--	0.3448	0.3448	0.3448	--	--	--	--	--	0.0031
6	Erosion Control Seeding	--	--	--	0.0493	0.0493	--	--	--	--	0.0004
	09 - Cha	**0.1847**	**0.5296**	**0.3448**	**0.3941**	**0.0493**	**--**	**--**	**--**	**--**	**0.0138**
GRAND TOTAL		**0.1847**	**0.5296**	**0.3448**	**0.3941**	**0.0493**	**--**	**--**	**--**	**--**	**0.0138**

Table L1-682. GHG Emissions from Construction Worker Commuting (River Grading Site)

#	Activity	Estimated Duration, Days	CO2 Emission Factor, (g/mi)	Annual Emissions, MTCO2e/yr
09 - Channels and Canals				
1	Mobilization and Demobilization	2	301.29	0.54
2	Clearing and Grubbing	4	301.29	0.65
3	Excavation (From Bank)	10	301.29	3.62
4	Excavation/Dredging (From Barge)	111	301.29	30.10
5	Riprap - Graded Stone 'C'	18	301.29	9.11
6	Erosion Control Seeding	16	301.29	1.16
	09 - Channels and Canals Total			**45.18**
GRAND TOTAL				**45.18**

Haul Truck Exhaust Emissions Summary

Table L1-683. Maximum Daily Haul Truck Emissions (River Grading Site)

Phase	ROG lbs/day	NOx lbs/day	CO lbs/day	SO2 lbs/day	PM10 lbs/day	PM2.5 lbs/day
09 - Channels and Canals	1.59	46.28	9.76	0.20	5.45	1.66
Peak Day Construction Exhaust Emissions Total	**1.59**	**46.28**	**9.76**	**0.20**	**5.45**	**1.66**

Notes:
Construction total will not add to the sum of each phase because not all tasks overlap on the same day.
PM10 and PM2.5 emissions include exhaust, tire wear, brake wear, and paved road dust.

Table L1-684. Annual Haul Truck Emissions (River Grading Site)

Phase	ROG tpy	NOx tpy	CO tpy	SO2 tpy	PM10 tpy	PM2.5 tpy	CO2e MT/yr
09 - Channels and Canals	0.01	0.42	0.09	0.00	0.05	0.02	173.89
Annual Construction Exhaust Emissions Total	**0.01**	**0.42**	**0.09**	**0.00**	**0.05**	**0.02**	**173.89**

Notes:
Total may not add exactly because of rounding.
PM10 and PM2.5 emissions include exhaust, tire wear, brake wear, and paved road dust.

Table L1-685. ROG Emissions from Haul Trucks (River Grading Site)

#	Activity	Quantity	Unit	Total Truck Trips	Trip Distance (mi)	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	Maximum
09 - Channels and Canals																					
1	Mobilization and Demobilization	-	-	30	21	2	0.1207	0.08	--	--	--	--	--	--	--	--	--	--	--	--	
2	Clearing and Grubbing	4	ACR	20	22	4	0.1207	--	0.03	--	--	--	--	--	--	--	--	--	--	--	
3	Excavation (From Bank)	6,652	CY	n/a	n/a	10	0.1207	--	--	n/a	--	--	--	--	--	--	--	--	--	--	
4	Excavation/Dredging (From Barge)	44,177	CY	n/a	n/a	111	0.1207	--	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
5	Riprap - Graded Stone 'C'	17,546	TN	1,626	66	18	0.1207	--	--	--	--	--	--	--	--	--	--	--	--	--	
6	Erosion Control Seeding	31	ACR	n/a	n/a	16	0.1207	--	--	--	n/a	--	--	--	--	--	--	--	--	--	
09 - Channels and Canals Total								**0.08**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
GRAND TOTAL								**0.08**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table L1-685. ROG Emissions from Haul T

#	Activity	n Daily Emissions, lbs/day															Annual Emissions, tpy
		15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	
09 - Channels and Canals																	
1	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	0.08	--	--	--	0.0001
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0001
3	Excavation (From Bank)	--	--	--	--	--	--	--	n/a	--	--	--	--	--	--	--	n/a
4	Excavation/Dredging (From Barge)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	--	--	--	--	--	--	--	n/a
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	--	1.59	1.59	1.59	--	--	--	--	--	0.0143
6	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	n/a	n/a	--	--	--	--	n/a
		--	**--**	**--**	**--**	**--**	**--**	**--**	**1.59**	**1.59**	**1.59**	**--**	**0.08**	**--**	**--**	**--**	**0.0144**
GRAND TOTAL		**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.59**	**1.59**	**1.59**	**--**	**0.08**	**--**	**--**	**--**	**0.0144**

Table L1-686. NOx Emissions from Haul Trucks (River Grading Site)

#	Activity	Quantity	Unit	Total Truck Trips	Trip Distance (mi)	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	Maximu
09 - Channels and Canals																					
1	Mobilization and Demobilization	-	-	30	21	2	3.5212	2.45	--	--	--	--	--	--	--	--	--	--	--	--	
2	Clearing and Grubbing	4	ACR	20	22	4	3.5212	--	0.85	--	--	--	--	--	--	--	--	--	--	--	
3	Excavation (From Bank)	6,652	CY	n/a	n/a	10	3.5212	--	--	n/a	--	--	--	--	--	--	--	--	--	--	
4	Excavation/Dredging (From Barge)	44,177	CY	n/a	n/a	111	3.5212	--	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
5	Riprap - Graded Stone 'C'	17,546	TN	1,626	66	18	3.5212	--	--	--	--	--	--	--	--	--	--	--	--	--	
6	Erosion Control Seeding	31	ACR	n/a	n/a	16	3.5212	--	--	--	n/a	--	--	--	--	--	--	--	--	--	
09 - Channels and Canals Total								**2.45**	**0.85**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
GRAND TOTAL								**2.45**	**0.85**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table L1-686. NOx Emissions from Haul Tr

		ım Daily Emissions, lbs/day															
#	Activity	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions , tpy
09 - Channels and Canals																	
1	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	2.45	--	--	--	0.0024
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0017
3	Excavation (From Bank)	--	--	--	--	--	--	--	n/a	--	--	--	--	--	--	--	n/a
4	Excavation/Dredging (From Barge)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	--	--	--	--	--	--	--	n/a
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	--	46.28	46.28	46.28	--	--	--	--	--	0.4165
6	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	n/a	n/a	--	--	--	--	n/a
		--	**--**	**--**	**--**	**--**	**--**	**--**	**46.28**	**46.28**	**46.28**	**--**	**2.45**	**--**	**--**	**--**	**0.4207**
GRAND TOTAL		**--**	**--**	**--**	**--**	**--**	**--**	**--**	**46.28**	**46.28**	**46.28**	**--**	**2.45**	**--**	**--**	**--**	**0.4207**

Table L1-687. CO Emissions from Haul Trucks (River Grading Site)

#	Activity	Quantity	Unit	Total Truck Trips	Trip Distance (mi)	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	Maximur
09 - Channels and Canals																					
1	Mobilization and Demobilization	-	-	30	21	2	0.7423	0.52	--	--	--	--	--	--	--	--	--	--	--	--	
2	Clearing and Grubbing	4	ACR	20	22	4	0.7423	--	0.18	--	--	--	--	--	--	--	--	--	--	--	
3	Excavation (From Bank)	6,652	CY	n/a	n/a	10	0.7423	--	--	n/a	--	--	--	--	--	--	--	--	--	--	
4	Excavation/Dredging (From Barge)	44,177	CY	n/a	n/a	111	0.7423	--	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
5	Riprap - Graded Stone 'C'	17,546	TN	1,626	66	18	0.7423	--	--	--	--	--	--	--	--	--	--	--	--	--	
6	Erosion Control Seeding	31	ACR	n/a	n/a	16	0.7423	--	--	--	n/a	--	--	--	--	--	--	--	--	--	
09 - Channels and Canals Total								**0.52**	**0.18**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
GRAND TOTAL								**0.52**	**0.18**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table L1-687. CO Emissions from Haul Tru

		n Daily Emissions, lbs/day															
#	Activity	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals																	
1	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	0.52	--	--	--	0.0005
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0004
3	Excavation (From Bank)	--	--	--	--	--	--	--	n/a	--	--	--	--	--	--	--	n/a
4	Excavation/Dredging (From Barge)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	--	--	--	--	--	--	--	n/a
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	--	9.76	9.76	9.76	--	--	--	--	--	0.0878
6	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	n/a	n/a	--	--	--	--	n/a
		--	**--**	**--**	**--**	**--**	**--**	**--**	**9.76**	**9.76**	**9.76**	**--**	**0.52**	**--**	**--**	**--**	**0.0887**
GRAND TOTAL		**--**	**--**	**--**	**--**	**--**	**--**	**--**	**9.76**	**9.76**	**9.76**	**--**	**0.52**	**--**	**--**	**--**	**0.0887**

Table L1-688. SOx Emissions from Haul Trucks (River Grading Site)

#	Activity	Quantity	Unit	Total Truck Trips	Trip Distance (mi)	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	Maximum
09 - Channels and Canals																					
1	Mobilization and Demobilization	-	-	30	21	2	0.0152	0.01	--	--	--	--	--	--	--	--	--	--	--	--	
2	Clearing and Grubbing	4	ACR	20	22	4	0.0152	--	0.00	--	--	--	--	--	--	--	--	--	--	--	
3	Excavation (From Bank)	6,652	CY	n/a	n/a	10	0.0152	--	--	n/a	--	--	--	--	--	--	--	--	--	--	
4	Excavation/Dredging (From Barge)	44,177	CY	n/a	n/a	111	0.0152	--	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
5	Riprap - Graded Stone 'C'	17,546	TN	1,626	66	18	0.0152	--	--	--	--	--	--	--	--	--	--	--	--	--	
6	Erosion Control Seeding	31	ACR	n/a	n/a	16	0.0152	--	--	--	n/a	--	--	--	--	--	--	--	--	--	
09 - Channels and Canals Total								**0.01**	**0.00**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
GRAND TOTAL								**0.01**	**0.00**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table L1-688. SOx Emissions from Haul Tr

		n Daily Emissions, lbs/day															
#	Activity	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals																	
1	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	0.0000
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0000
3	Excavation (From Bank)	--	--	--	--	--	--	--	n/a	--	--	--	--	--	--	--	n/a
4	Excavation/Dredging (From Barge)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	--	--	--	--	--	--	--	n/a
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	--	0.20	0.20	0.20	--	--	--	--	--	0.0018
6	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	n/a	n/a	--	--	--	--	n/a
		--	**--**	**--**	**--**	**--**	**--**	**--**	**0.20**	**0.20**	**0.20**	**--**	**0.01**	**--**	**--**	**--**	**0.0018**
GRAND TOTAL		**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.20**	**0.20**	**0.20**	**--**	**0.01**	**--**	**--**	**--**	**0.0018**

Table L1-689. PM10 Emissions from Haul Trucks (River Grading Site)

#	Activity	Quantity	Unit	Total Truck Trips	Trip Distance (mi)	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	Maximur
09 - Channels and Canals																					
1	Mobilization and Demobilization	-	-	30	21	2	0.4144	0.29	--	--	--	--	--	--	--	--	--	--	--	--	
2	Clearing and Grubbing	4	ACR	20	22	4	0.4144	--	0.10	--	--	--	--	--	--	--	--	--	--	--	
3	Excavation (From Bank)	6,652	CY	n/a	n/a	10	0.4144	--	--	n/a	--	--	--	--	--	--	--	--	--	--	
4	Excavation/Dredging (From Barge)	44,177	CY	n/a	n/a	111	0.4144	--	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
5	Riprap - Graded Stone 'C'	17,546	TN	1,626	66	18	0.4144	--	--	--	--	--	--	--	--	--	--	--	--	--	
6	Erosion Control Seeding	31	ACR	n/a	n/a	16	0.4144	--	--	--	n/a	--	--	--	--	--	--	--	--	--	
09 - Channels and Canals Total								**0.29**	**0.10**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
GRAND TOTAL								**0.29**	**0.10**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table L1-689. PM10 Emissions from Haul T

		n Daily Emissions, lbs/day															
#	Activity	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals																	
1	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	0.29	--	--	--	0.0003
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0002
3	Excavation (From Bank)	--	--	--	--	--	--	--	n/a	--	--	--	--	--	--	--	n/a
4	Excavation/Dredging (From Barge)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	--	--	--	--	--	--	--	n/a
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	--	5.45	5.45	5.45	--	--	--	--	--	0.0490
6	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	n/a	n/a	--	--	--	--	n/a
		--	**--**	**--**	**--**	**--**	**--**	**--**	**5.45**	**5.45**	**5.45**	**--**	**0.29**	**--**	**--**	**--**	**0.0495**
GRAND TOTAL		**--**	**--**	**--**	**--**	**--**	**--**	**--**	**5.45**	**5.45**	**5.45**	**--**	**0.29**	**--**	**--**	**--**	**0.0495**

Table L1-690. PM2.5 Emissions from Haul Trucks (River Grading Site)

#	Activity	Quantity	Unit	Total Truck Trips	Trip Distance (mi)	Estimated Duration, Days	Emission Factor (g/mi)	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	Maximum
09 - Channels and Canals																					
1	Mobilization and Demobilization	-	-	30	21	2	0.1262	0.09	--	--	--	--	--	--	--	--	--	--	--	--	
2	Clearing and Grubbing	4	ACR	20	22	4	0.1262	--	0.03	--	--	--	--	--	--	--	--	--	--	--	
3	Excavation (From Bank)	6,652	CY	n/a	n/a	10	0.1262	--	--	n/a	--	--	--	--	--	--	--	--	--	--	
4	Excavation/Dredging (From Barge)	44,177	CY	n/a	n/a	111	0.1262	--	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
5	Riprap - Graded Stone 'C'	17,546	TN	1,626	66	18	0.1262	--	--	--	--	--	--	--	--	--	--	--	--	--	
6	Erosion Control Seeding	31	ACR	n/a	n/a	16	0.1262	--	--	--	n/a	--	--	--	--	--	--	--	--	--	
09 - Channels and Canals Total								**0.09**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
GRAND TOTAL								**0.09**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table L1-690. PM2.5 Emissions from Haul

#	Activity	n Daily Emissions, lbs/day															Annual Emissions, tpy
		15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	
09 - Channels and Canals																	
1	Mobilization and Demobilization	--	--	--	--	--	--	--	--	--	--	--	0.09	--	--	--	0.0001
2	Clearing and Grubbing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0001
3	Excavation (From Bank)	--	--	--	--	--	--	--	n/a	--	--	--	--	--	--	--	n/a
4	Excavation/Dredging (From Barge)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	--	--	--	--	--	--	--	n/a
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	--	1.66	1.66	1.66	--	--	--	--	--	0.0149
6	Erosion Control Seeding	--	--	--	--	--	--	--	--	--	n/a	n/a	--	--	--	--	n/a
		--	**--**	**--**	**--**	**--**	**--**	**--**	**1.66**	**1.66**	**1.66**	**--**	**0.09**	**--**	**--**	**--**	**0.0151**
GRAND TOTAL		**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.66**	**1.66**	**1.66**	**--**	**0.09**	**--**	**--**	**--**	**0.0151**

Table L1-691. GHG Emissions from Haul Trucks (River Grading Site)

		3	4			13		
#	Activity	Quantity	Unit	Total Truck Trips	Trip Distance (mi)	Estimated Duration, Days	CO2 Emission Factor (g/mi)	Annual Emissions, MTCO2e/yr
09 - Channels and Canals								
1	Mobilization and Demobilization	-	-	30	21	2	1,604.39	1.01
2	Clearing and Grubbing	4	ACR	20	22	4	1,604.39	0.71
3	Excavation (From Bank)	6,652	CY	n/a	n/a	10	1,604.39	n/a
4	Excavation/Dredging (From Barge)	44,177	CY	n/a	n/a	111	1,604.39	n/a
5	Riprap - Graded Stone 'C'	17,546	TN	1,626	66	18	1,604.39	172.18
6	Erosion Control Seeding	31	ACR	n/a	n/a	16	1,604.39	n/a
							09 - Channels and Canals Total	**173.89**
GRAND TOTAL								**173.89**

Table L1-692. PM10 Emissions Summary from Fugitive Dust (River Grading Site)

		PM10 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing																			
	Material Handling	n/a	n/a																	
	Grading	0.53	0.53																	
	Bulldozing	n/a	n/a																	
	Unpaved Road Dust	n/a	n/a																	
	Paved Road Dust																			
	Clearing and Grubbing Subtotal	**0.53**	**0.53**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)																			
	Material Handling		n/a	n/a																
	Grading		1.06	1.06																
	Bulldozing		4.70	4.70																
	Unpaved Road Dust		n/a	n/a																
	Paved Road Dust																			
	Excavation (From Bank) Subtotal	--	**5.76**	**5.76**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dredging (From Barge)																			
	Material Handling		n/a																	
	Grading		n/a																	
	Bulldozing		n/a																	
	Unpaved Road Dust		n/a																	
	Paved Road Dust																			
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading			0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Riprap - Graded Stone 'C' Subtotal	--	--	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**
6	Erosion Control Seeding																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.53**	**6.29**	**6.29**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**
GRAND TOTAL		**0.53**	**6.29**	**6.29**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**

Table L1-692. PM10 Emissions Summary from Fugitive I

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization										
	Material Handling						n/a				n/a
	Grading						n/a				n/a
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing										
	Material Handling						n/a				n/a
	Grading						0.53				0.00
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Clearing and Grubbing Subtotal	--	--	--	--	--	**0.53**	--	--	--	**0.00**
3	Excavation (From Bank)										
	Material Handling	n/a									n/a
	Grading		1.06								0.00
	Bulldozing		4.70								0.01
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Excavation (From Bank) Subtotal	--	**5.76**	--	--	--	--	--	--	--	**0.01**
4	Excavation/Dredging (From Barge)										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'										
	Material Handling	n/a	n/a								n/a
	Grading	0.53	0.53								0.00
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Riprap - Graded Stone 'C' Subtotal	**0.53**	**0.53**	--	--	--	--	--	--	--	**0.00**
6	Erosion Control Seeding										
	Material Handling	n/a	n/a	n/a	n/a						n/a
	Grading	n/a	n/a	n/a	n/a						n/a
	Bulldozing	n/a	n/a	n/a	n/a						n/a
	Unpaved Road Dust	n/a	n/a	n/a	n/a						n/a
	Paved Road Dust										
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.53**	**6.29**	--	--	--	**0.53**	--	--	--	**0.01**
GRAND TOTAL		**0.53**	**6.29**	--	--	--	**0.53**	--	--	--	**0.01**

Table L1-693. PM2.5 Emissions Summary from Fugitive Dust (River Grading Site)

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing																			
	Material Handling	n/a	n/a																	
	Grading	0.06	0.06																	
	Bulldozing	n/a	n/a																	
	Unpaved Road Dust	n/a	n/a																	
	Paved Road Dust																			
	Clearing and Grubbing Subtotal	**0.06**	**0.06**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)																			
	Material Handling		n/a	n/a																
	Grading		0.11	0.11																
	Bulldozing		2.58	2.58																
	Unpaved Road Dust		n/a	n/a																
	Paved Road Dust																			
	Excavation (From Bank) Subtotal	--	**2.70**	**2.70**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dredging (From Barge)																			
	Material Handling		n/a																	
	Grading		n/a																	
	Bulldozing		n/a																	
	Unpaved Road Dust		n/a																	
	Paved Road Dust																			
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading			0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Riprap - Graded Stone 'C' Subtotal	--	--	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**
6	Erosion Control Seeding																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.06**	**2.75**	**2.75**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**
GRAND TOTAL		**0.06**	**2.75**	**2.75**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**

Table L1-693. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization										
	Material Handling						n/a				n/a
	Grading						n/a				n/a
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing										
	Material Handling						n/a				n/a
	Grading						0.06				0.00
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Clearing and Grubbing Subtotal	--	--	--	--	--	**0.06**	--	--	--	**0.00**
3	Excavation (From Bank)										
	Material Handling		n/a								n/a
	Grading		0.11								0.00
	Bulldozing		2.58								0.01
	Unpaved Road Dust		n/a								n/a
	Paved Road Dust										
	Excavation (From Bank) Subtotal	--	**2.70**	--	--	--	--	--	--	--	**0.01**
4	Excavation/Dredging (From Barge)										
	Material Handling		n/a								n/a
	Grading		n/a								n/a
	Bulldozing		n/a								n/a
	Unpaved Road Dust		n/a								n/a
	Paved Road Dust										
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'										
	Material Handling	n/a	n/a								n/a
	Grading	0.06	0.06								0.00
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Riprap - Graded Stone 'C' Subtotal	**0.06**	**0.06**	--	--	--	--	--	--	--	**0.00**
6	Erosion Control Seeding										
	Material Handling	n/a	n/a	n/a	n/a						n/a
	Grading	n/a	n/a	n/a	n/a						n/a
	Bulldozing	n/a	n/a	n/a	n/a						n/a
	Unpaved Road Dust	n/a	n/a	n/a	n/a						n/a
	Paved Road Dust										
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.06**	**2.75**	--	--	--	**0.06**	--	--	--	**0.01**
GRAND TOTAL		**0.06**	**2.75**	--	--	--	**0.06**	--	--	--	**0.01**

River Grading Site
Fugitive Dust Emissions - Material Handling (Truck Loading/Unloading)

Equation (AP-42, Chapter 13.2.4):

$$E = k(0.0032)\frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

where:
E = emission factor, pound per ton
k = particle size multiplier
U = mean wind speed, miles per hour
M = material moisture content, %

Average Wind Speed 8.59 mph
Source: MesoWest, Station KSMF (Sacramento International Airport), 2015 data. Site accessed October 27, 2016. mesowest.utah.edu.

k values
PM10 0.35
PM2.5 0.053

Material Moisture Content (%)
Spoils 12 *Source: CalEEMod 2016.3.1 User's Guide; default values*
Limestone 2.1 *Source: AP-42, Table 13.2.4-1; various limestone products*
Demolition 2 *Source: CalEEMod 2016.3.1 User's Guide; default values*

Table L1-694. Material Handling Emissions (River Grading Site)

Activity	Total Daily Output, cy/day	Quantity, cy/year	Total Daily Output, ton/day	Quantity, ton/year	Type	PM10 EF, lb/ton	PM2.5 EF, lb/ton	PM10, lbs/day	PM2.5, lbs/day	PM10, tpy	PM2.5, tpy
09 - Channels and Grading											
Excavation (From Bank)	700	6,652	0	0	Spoils	1.84E-04	2.79E-05	0.0	0.0	0.00	0.00
09 - Channels and Grading Total	**700**	**6,652**	**0**	**0**				**0.0**	**0.0**	**0.00**	**0.00**

Source: HDR. 2016. Draft Technical Memorandum: Constructability and Construction Considerations. Yolo Bypass Salmonid Habitat Restoration & Fish Passage Project - 10% Design. August 31.

Note:

Emissions assume that standard construction practice of watering is used.

Fremont weir demolition emissions assume that there is an additional "drop" from the mechanical dismemberment of the structure; method is consistent with CalEEMod 2016.3.1.

No emissions assumed to occur with wet excavation activities because spoils would be waterlogged.

Density

1.25 tons per cubic yard

Note: CalEEMod assumes haul trucks can handle 20 tons or 16 cy.

Number of Drops

2 drops per truck *(one drop at borrow site and one drop at dam site)*

Dust Control

61% reduction from watering at least 3 times per day

Source: CalEEMod

Conversion

2,000 pounds per ton

River Grading Site
Fugitive Dust Emissions - Grading

Equations (AP-42, Chapter 11.9):

$TSP = 0.040(S)^{2.5}$ and $PM15 = 0.051(S)^{2.0}$

where:
S = mean vehicle speed, miles per hour

Scaling Factors

PM10	0.60	(multiply the 15-micron equation by this fraction to determine emissions)
PM2.5	0.031	(multiply the TSP equation by this fraction to determine emissions)

Emission Factors

PM10	1.54	lb/VMT
PM2.5	0.17	lb/VMT

Mileage Calculation (CalEEMod 2016.3.1 User's Guide, Appendix A):

$$VMT = As/Wb \times 43{,}560\left(\frac{sqft}{acre}\right)/5{,}280\left(\frac{ft}{mile}\right)$$

Table L1-695. Maximum Daily Disturbed Area

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Table L1-696. Grading Emissions (River Grading Site)

Activity	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Crew/ Equipment Quantity	Estimated Duration, Days	Graded Acres per Day	Total Graded Area (As)	VMT per year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
09 - Channels and Canals												
Clearing and Grubbing	1.5 CY Front End Loader Crawler	Crawler Tractors	1	1	4	0.5	2.0	1.4	0.5	0.1	0.0	0.0
	Trailer Mounted Brush Chipper	Shredders	1	1	4	--	--	--	--	--	--	--
	Chainsaw	Chainsaws	1	1	4	--	--	--	--	--	--	--
	4000 gallon Water Truck	n/a - onroad	1	1	4	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	6	1	4	--	--	--	--	--	--	--
	16 CY 3 Axle Dump Truck	n/a - onroad	1	1	4	--	--	--	--	--	--	--
					Clearing and Grubbing Total	**0.5**	**2.0**	**1.4**	**0.5**	**0.1**	**0.0**	**0.0**

Table L1-696. Grading Emissions (River Grading Site)

Activity	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Crew/ Equipment Quantity	Estimated Duration, Days	Graded Acres per Day	Total Graded Area (As)	VMT per year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
Excavation (From Bank)	4.5 CY Hydraulic Excavator	Excavators	1	1	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	300 HP Dozer	Rubber Tired Dozers	2	1	10	1.0	10.0	6.9	1.1	0.1	0.0	0.0
	3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	1	10	--	--	--	--	--	--	--
	16 CY 3 Axle Dump Truck	n/a - onroad	6	1	10	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	7	1	10	--	--	--	--	--	--	--
			Excavation (From Bank) Total			**1.0**	**10.0**	**6.9**	**1.1**	**0.1**	**0.0**	**0.0**
Riprap - Graded Stone 'C'	2.5 CY Hydraulic Excavator	Excavators	2	1	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	300 HP Dozer Crawler	Crawler Tractors	1	1	18	0.5	9.0	6.2	0.5	0.1	0.0	0.0
	16 CY 3 Axle Dump Truck	n/a - onroad	23	1	18	--	--	--	--	--	--	--
	Pickup Truck Conventional	n/a - onroad	5	1	18	--	--	--	--	--	--	--
			Riprap - Graded Stone 'C' Total			**0.5**	**9.0**	**6.2**	**0.5**	**0.1**	**0.0**	**0.0**

Blade Width
12 feet

Scraper Speed
7.1 mph (AP-42 default)

Conversions
43,560 square feet per acre
5,280 feet per mile
2,000 pounds per ton

Dust Control
61% reduction from watering at least 3 times per day
Source: CalEEMod

River Grading Site
Fugitive Dust Emissions - Bulldozing

Equations (AP-42, Chapter 11.9):

$$TSP = \frac{5.7(s)^{1.2}}{M^{1.3}} \quad \text{and} \quad PM15 = \frac{1.0(s)^{1.5}}{M^{1.4}}$$

where:

s = silt content	6.9 %	(AP-42, Table 11.9-3, Overburden)
M = material moisture content	7.9 %	(AP-42, Table 11.9-3, Overburden)

Scaling Factors

PM10	0.75	(multiply the 15-micron equation by this fraction to determine emissions)
PM2.5	0.105	(multiply the TSP equation by this fraction to determine emissions)

Emission Factors

PM10	0.75	lb/hr
PM2.5	0.41	lb/hr

Table L1-697. Bulldozing Emissions (River Grading Site)

Activity	Crew / Equipment	Equipment Quantity per Crew	Crew/ Equipment Quantity	Estimated Duration, Days	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
09 - Channels and Canals								
Excavation (From Bank)	300 HP Dozer	2	1	10	4.70	2.58	0.02	0.01
Riprap - Graded Stone 'C'	300 HP Dozer Crawle	1	1	18	2.35	1.29	0.02	0.01

Operating Schedule
8 hr/day

Conversion
2,000 pounds per ton

Dust Control
61% reduction from watering at least 3 times per day
Source: CalEEMod

River Grading Site
Fugitive Dust Emissions - Unpaved Road Dust (Haul Roads)

Equation (AP-42, Chapter 13.2.2):

$$E = k(s/12)^a(W/3)^b$$

where:
E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)

Variables

k (PM10)	1.5	
k (PM2.5)	0.15	
a	0.9	
b	0.45	
s, %	4.3	(CalEEMod default)
W, tons	180	loaded
	74	unloaded

Table L1-698. Unpaved Road Dust Emission Factors (lb/VMT)

Weight	PM10	PM2.5
Loaded	3.76	0.38
Unloaded	2.52	0.25
Average	3.14	0.31

Table L1-699. Unpaved Road Dust Emissions (River Grading Site)

Activity	Total Daily Output	Total Quantity	Unit	Estimated Duration, Days	VMT per Day	VMT per Year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
09 - Channels and Canals										
Excavation (From Bank)	700	6,652	CY	10	36	336	44.1	4.4	0.2	0.02

Notes:
Assumes payload of each truck is 100 tons.
Half of truck trips will be loaded and other half will be unloaded.
Only includes materials that will be transported to spoil site by dump trucks.

Distance to borrow area

2 miles (spoils site located within a 1-mile radius of the project access point(s); average of 1 mile travel distance from point of excavation)

Density

1.25 tons/cy

Note: CalEEMod assumes haul trucks can handle 20 tons or 16 cy.

Dust Control

61% reduction from watering at least 3 times per day

Source: CalEEMod

Offroad Exhaust Emissions Summary

Table L1-700. Maximum Daily Mitigated Offroad Construction Equipment Emissions (River Grading Site)

Phase	ROG lbs/day	NOx lbs/day	CO lbs/day	SO2 lbs/day	PM10 lbs/day	PM2.5 lbs/day
09 - Channels and Canals	12.27	73.70	48.31	0.23	1.28	0.65
Peak Day Construction Exhaust Emissions Total	**12.27**	**73.70**	**48.31**	**0.23**	**1.28**	**0.65**
Percent Reduction (Compared to Unmitigated)	*-3%*	*-30%*	*-8%*	*-2%*	*-45%*	*-60%*

Notes:

Construction total will not add to the sum of each phase because not all tasks overlap on the same day.

Table L1-701. Annual Mitigated Offroad Construction Equipment Emissions (River Grading Site)

Phase	ROG tpy	NOx tpy	CO tpy	SO2 tpy	PM10 tpy	PM2.5 tpy	CO2e MT/yr
09 - Channels and Canals	0.12	0.71	0.78	0.00	0.02	0.01	408.77
Annual Construction Exhaust Emissions Total	**0.12**	**0.71**	**0.78**	**0.00**	**0.02**	**0.01**	**408.77**
Percent Reduction (Compared to Unmitigated)	*15%*	*-42%*	*-9%*	*-1%*	*-53%*	*-64%*	*-2%*

Notes:

Total may not add exactly because of rounding.

Table L1-702. ROG Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emissio n Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.0565	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.1123	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				1.3847	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0908	g/hp-hr
												Mobilization and Demobilization Subtotal	
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.1353	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0754	g/hp-hr
				Chainsaw	Chainsaws	1	8					72.5633	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.0565	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.3847	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					5.1968	g/hr
												Clearing and Grubbing Subtotal	
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0908	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.1009	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0716	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					5.1968	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.3847	g/hr
												Excavation (From Bank) Subtotal	
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0908	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.3847	g/hr
												Excavation/Dredging (From Barge) Subtotal	
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0908	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0933	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					5.1968	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					1.3847	g/hr
												Riprap - Graded Stone 'C' Subtotal	
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.1078	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.3847	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
GRAND TOTAL													

Table L1-702. ROG Exhaust Emissions from C

#	Activity	Maximum Daily Emissions, lbs/day																						
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep
09 - Channels and Canals																								
1	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		1.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	10.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.45	**10.51**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	1.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		--	--	0.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.41	--	
		--	--	0.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.55	--	
		--	--	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.17	--	
		--	**1.75**	**1.14**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.14**	**--**	
4	Excavation/Dredging (From Barge)	--	--	0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	
		--	--	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	
		--	**--**	**0.90**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.90**	**--**	
5	Riprap - Graded Stone 'C'	--	--	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	--	
		--	--	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	--	
		--	--	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	2.11	--	
		--	--	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	--	
		--	**--**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**3.55**	**--**	
6	Erosion Control Seeding	--	--	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	--	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	0.10	
		--	**--**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**	**0.28**	**0.10**	
		1.51	**12.27**	**5.76**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**5.86**	**0.10**	
GRAND TOTAL		**1.51**	**12.27**	**5.76**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**3.73**	**5.86**	**0.10**	

Table L1-702. ROG Exhaust Emissions from C

#	Activity	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals								
1	Mobilization and Demobilization	--	--	0.04	--	--	--	0.0000
		--	--	0.20	--	--	--	0.0002
		--	--	0.02	--	--	--	0.0000
		--	--	--	--	--	--	0.0000
		--	--	0.80	--	--	--	0.0008
		--	**--**	**1.06**	**--**	**--**	**--**	**0.0011**
2	Clearing and Grubbing	--	--	0.26	--	--	--	0.0005
		--	--	0.19	--	--	--	0.0004
		--	--	--	--	--	--	0.0205
		--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	0.0002
		--	**--**	**0.45**	**--**	**--**	**--**	**0.0219**
3	Excavation (From Bank)	--	--	--	--	--	--	0.0034
		--	--	--	--	--	--	0.0053
		--	--	--	--	--	--	0.0021
		--	--	--	--	--	--	0.0027
		--	--	--	--	--	--	0.0009
		--	**--**	**--**	**--**	**--**	**--**	**0.0144**
4	Excavation/Dredging (From Barge)	--	--	--	--	--	--	0.0444
		--	--	--	--	--	--	0.0054
		--	**--**	**--**	**--**	**--**	**--**	**0.0498**
5	Riprap - Graded Stone 'C'	--	--	--	--	--	--	0.0074
		--	--	--	--	--	--	0.0044
		--	--	--	--	--	--	0.0190
		--	--	--	--	--	--	0.0011
		--	**--**	**--**	**--**	**--**	**--**	**0.0319**
6	Erosion Control Seeding	--	--	--	--	--	--	0.0015
		0.10	--	--	--	--	--	0.0008
		0.10	**--**	**--**	**--**	**--**	**--**	**0.0023**
		0.10	**--**	**1.51**	**--**	**--**	**--**	**0.1214**
GRAND TOTAL		**0.10**	**0.00**	**1.51**	**0.00**	**0.00**	**0.00**	**0.1214**

Table L1-703. NOx Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	62.8403	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.8490	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				1.2324	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.1602	g/hp-hr
											Mobilization and Demobilization Subtotal		
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.9188	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.7727	g/hp-hr
				Chainsaw	Chainsaws	1	8					1.2873	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					62.8403	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					1.2324	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					131.5280	g/hr
											Clearing and Grubbing Subtotal		
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.1602	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.1675	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.1481	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					131.5280	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					1.2324	g/hr
											Excavation (From Bank) Subtotal		
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.1602	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.2324	g/hr
											Excavation/Dredging (From Barge) Subtotal		
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.1602	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.1777	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					131.5280	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					1.2324	g/hr
											Riprap - Graded Stone 'C' Subtotal		
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.7823	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					1.2324	g/hr
											Erosion Control Seeding Subtotal		
											09 - Channels and Canals Total		
GRAND TOTAL													

Table L1-703. NOx Exhaust Emissions from O

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		4.04	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	1.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		1.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	2.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		3.69	**3.74**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	1.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	13.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**2.98**	**14.93**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	1.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**1.50**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
		--	--	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
		--	--	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35	53.35
		--	--	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
		--	**--**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**	**55.85**
6	Erosion Control Seeding	--	--	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**	**1.34**
		7.73	**6.72**	**73.62**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**
GRAND TOTAL		**7.73**	**6.72**	**73.62**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**	**57.19**

Table L1-703. NOx Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	1.11	--	--	--	0.0011
		--	--	--	--	1.50	--	--	--	0.0015
		--	--	--	--	0.02	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	1.41	--	--	--	0.0014
		--	**--**	**--**	**--**	**4.04**	**--**	**--**	**--**	**0.0040**
2	Clearing and Grubbing	--	--	--	--	1.78	--	--	--	0.0036
		--	--	--	--	1.91	--	--	--	0.0038
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0022
		--	--	--	--	--	--	--	--	0.0003
		--	--	--	--	--	--	--	--	0.0046
		--	**--**	**--**	**--**	**3.69**	**--**	**--**	**--**	**0.0149**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0061
		--	--	--	--	--	--	--	--	0.0089
		0.86	--	--	--	--	--	--	--	0.0043
		13.92	--	--	--	--	--	--	--	0.0696
		0.15	--	--	--	--	--	--	--	0.0008
		14.93	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0896**
4	Excavation/Dredging (From Barge)	1.41	--	--	--	--	--	--	--	0.0782
		0.09	--	--	--	--	--	--	--	0.0048
		1.50	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0831**
5	Riprap - Graded Stone 'C'	1.45	--	--	--	--	--	--	--	0.0131
		0.94	--	--	--	--	--	--	--	0.0085
		53.35	--	--	--	--	--	--	--	0.4802
		0.11	--	--	--	--	--	--	--	0.0010
		55.85	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.5027**
6	Erosion Control Seeding	1.34	--	--	--	--	--	--	--	0.0107
		0.09	0.09	0.09	--	--	--	--	--	0.0007
		1.43	**0.09**	**0.09**	**--**	**--**	**--**	**--**	**--**	**0.0114**
		73.70	**0.09**	**0.09**	**--**	**7.73**	**--**	**--**	**--**	**0.7056**
GRAND TOTAL		**73.70**	**0.09**	**0.09**	**0.00**	**7.73**	**0.00**	**0.00**	**0.00**	**0.7056**

Table L1-704. CO Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	10.5648	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				2.0693	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				12.4711	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.5975	g/hp-hr
												Mobilization and Demobilization Subtotal	
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	2.2674	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					1.1116	g/hp-hr
				Chainsaw	Chainsaws	1	8					146.1724	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					10.5648	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					12.4711	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					33.0182	g/hr
												Clearing and Grubbing Subtotal	
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.5975	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.6274	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					1.6565	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					33.0182	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					12.4711	g/hr
												Excavation (From Bank) Subtotal	
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.5975	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					12.4711	g/hr
												Excavation/Dredging (From Barge) Subtotal	
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.5975	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.6597	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					33.0182	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					12.4711	g/hr
												Riprap - Graded Stone 'C' Subtotal	
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	1.9153	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					12.4711	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
GRAND TOTAL													

Table L1-704. CO Exhaust Emissions from Off

#	Activity	Maximum Daily Emissions, lbs/day																			
		15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		3.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		5.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		9.31	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	4.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		2.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	20.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	1.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		7.14	**22.71**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	4.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	6.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	9.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	3.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	1.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**11.16**	**14.62**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	5.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**6.14**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
		--	--	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49
		--	--	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39
		--	--	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
		--	**--**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**	**23.40**
6	Erosion Control Seeding	--	--	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**	**3.28**
		16.46	**33.87**	**47.43**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**
GRAND TOTAL		**16.46**	**33.87**	**47.43**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**	**26.68**

Table L1-704. CO Exhaust Emissions from Of

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.19	--	--	--	0.0002
		--	--	--	--	3.65	--	--	--	0.0036
		--	--	--	--	0.22	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	5.26	--	--	--	0.0053
		--	**--**	**--**	**--**	**9.31**	**--**	**--**	**--**	**0.0093**
2	Clearing and Grubbing	--	--	--	--	4.40	--	--	--	0.0088
		--	--	--	--	2.74	--	--	--	0.0055
		--	--	--	--	--	--	--	--	0.0412
		--	--	--	--	--	--	--	--	0.0004
		--	--	--	--	--	--	--	--	0.0026
		--	--	--	--	--	--	--	--	0.0012
		--	**--**	**--**	**--**	**7.14**	**--**	**--**	**--**	**0.0597**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0226
		--	--	--	--	--	--	--	--	0.0332
		9.58	--	--	--	--	--	--	--	0.0479
		3.49	--	--	--	--	--	--	--	0.0175
		1.54	--	--	--	--	--	--	--	0.0077
		14.62	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.1289**
4	Excavation/Dredging (From Barge)	5.26	--	--	--	--	--	--	--	0.2918
		0.88	--	--	--	--	--	--	--	0.0488
		6.14	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.3407**
5	Riprap - Graded Stone 'C'	5.42	--	--	--	--	--	--	--	0.0487
		3.49	--	--	--	--	--	--	--	0.0314
		13.39	--	--	--	--	--	--	--	0.1205
		1.10	--	--	--	--	--	--	--	0.0099
		23.40	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.2106**
6	Erosion Control Seeding	3.28	--	--	--	--	--	--	--	0.0262
		0.88	0.88	0.88	--	--	--	--	--	0.0070
		4.16	**0.88**	**0.88**	**--**	**--**	**--**	**--**	**--**	**0.0333**
		48.31	**0.88**	**0.88**	**--**	**16.46**	**--**	**--**	**--**	**0.7824**
GRAND TOTAL		**48.31**	**0.88**	**0.88**	**0.00**	**16.46**	**0.00**	**0.00**	**0.00**	**0.7824**

Table L1-705. SO2 Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.1718	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.0040	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				0.0468	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0032	g/hp-hr
											Mobilization and Demobilization Subtotal		
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.0043	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0026	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.0163	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.1718	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.0468	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					0.2206	g/hr
											Clearing and Grubbing Subtotal		
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0032	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0033	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0035	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					0.2206	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.0468	g/hr
											Excavation (From Bank) Subtotal		
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0032	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.0468	g/hr
											Excavation/Dredging (From Barge) Subtotal		
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0032	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0036	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					0.2206	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.0468	g/hr
											Riprap - Graded Stone 'C' Subtotal		
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.0037	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.0468	g/hr
											Erosion Control Seeding Subtotal		
											09 - Channels and Canals Total		
GRAND TOTAL													

Table L1-705. SO2 Exhaust Emissions from O

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.04	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	**0.01**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.06**	**0.05**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.03**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
		--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
		--	--	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
		--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		--	**--**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**
6	Erosion Control Seeding	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
		0.05	**0.07**	**0.23**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**
GRAND TOTAL		**0.05**	**0.07**	**0.23**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**

Table L1-705. SO2 Exhaust Emissions from O

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.00	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	0.00	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	0.03	--	--	--	0.0000
		--	**--**	**--**	**--**	**0.04**	**--**	**--**	**--**	**0.0000**
2	Clearing and Grubbing	--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**0.01**	**--**	**--**	**--**	**0.0001**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0002
		0.02	--	--	--	--	--	--	--	0.0001
		0.02	--	--	--	--	--	--	--	0.0001
		0.01	--	--	--	--	--	--	--	0.0000
		0.05	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0005**
4	Excavation/Dredging (From Barge)	0.03	--	--	--	--	--	--	--	0.0016
		0.00	--	--	--	--	--	--	--	0.0002
		0.03	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0017**
5	Riprap - Graded Stone 'C'	0.03	--	--	--	--	--	--	--	0.0003
		0.02	--	--	--	--	--	--	--	0.0002
		0.09	--	--	--	--	--	--	--	0.0008
		0.00	--	--	--	--	--	--	--	0.0000
		0.14	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0013**
6	Erosion Control Seeding	0.01	--	--	--	--	--	--	--	0.0001
		0.00	0.00	0.00	--	--	--	--	--	0.0000
		0.01	**0.00**	**0.00**	**--**	**--**	**--**	**--**	**--**	**0.0001**
		0.23	**0.00**	**0.00**	**--**	**0.05**	**--**	**--**	**--**	**0.0037**
GRAND TOTAL		**0.23**	**0.00**	**0.00**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.0037**

Table L1-706. PM10 Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	2.2051	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.0077	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				0.7714	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0061	g/hp-hr
											Mobilization and Demobilization Subtotal		
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.0089	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0303	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.2300	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					2.2051	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.7714	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					1.5952	g/hr
											Clearing and Grubbing Subtotal		
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0061	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0065	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0058	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					1.5952	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.7714	g/hr
											Excavation (From Bank) Subtotal		
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0061	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.7714	g/hr
											Excavation/Dredging (From Barge) Subtotal		
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0061	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0067	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					1.5952	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.7714	g/hr
											Riprap - Graded Stone 'C' Subtotal		
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.0073	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.7714	g/hr
											Erosion Control Seeding Subtotal		
											09 - Channels and Canals Total		
GRAND TOTAL													

Table L1-706. PM10 Exhaust Emissions from (

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.12	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.09	**0.18**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.12**	**0.30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.11**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
		--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
		--	--	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
		--	--	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
		--	**--**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**	**0.81**
6	Erosion Control Seeding	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
		0.21	**0.30**	**1.22**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**
GRAND TOTAL		**0.21**	**0.30**	**1.22**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**	**0.82**

Table L1-706. PM10 Exhaust Emissions from (

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.04	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	0.05	--	--	--	0.0001
		--	**--**	**--**	**--**	**0.12**	**--**	**--**	**--**	**0.0001**
2	Clearing and Grubbing	--	--	--	--	0.02	--	--	--	0.0000
		--	--	--	--	0.07	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0001
		--	**--**	**--**	**--**	**0.09**	**--**	**--**	**--**	**0.0005**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0003
		0.03	--	--	--	--	--	--	--	0.0002
		0.17	--	--	--	--	--	--	--	0.0008
		0.10	--	--	--	--	--	--	--	0.0005
		0.30	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0021**
4	Excavation/Dredging (From Barge)	0.05	--	--	--	--	--	--	--	0.0030
		0.05	--	--	--	--	--	--	--	0.0030
		0.11	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0060**
5	Riprap - Graded Stone 'C'	0.06	--	--	--	--	--	--	--	0.0005
		0.04	--	--	--	--	--	--	--	0.0003
		0.65	--	--	--	--	--	--	--	0.0058
		0.07	--	--	--	--	--	--	--	0.0006
		0.81	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0073**
6	Erosion Control Seeding	0.01	--	--	--	--	--	--	--	0.0001
		0.05	0.05	0.05	--	--	--	--	--	0.0004
		0.07	**0.05**	**0.05**	**--**	**--**	**--**	**--**	**--**	**0.0005**
		1.28	**0.05**	**0.05**	**--**	**0.21**	**--**	**--**	**--**	**0.0165**
GRAND TOTAL		**1.28**	**0.05**	**0.05**	**0.00**	**0.21**	**0.00**	**0.00**	**0.00**	**0.0165**

Table L1-707. PM2.5 Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Mitigated

#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	Emission Factor	Units
09 - Channels and Canals													
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	0.9499	g/hr
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				0.0071	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				0.3620	g/hr
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0.0000	g/hr
				Barge Mounted Excavator	Excavators	1	499	-				0.0056	g/hp-hr
												Mobilization and Demobilization Subtotal	
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	0.0082	g/hp-hr
				Trailer Mounted Brush Chipper	Shredders	1	140					0.0279	g/hp-hr
				Chainsaw	Chainsaws	1	8					0.2116	g/hp-hr
				4000 gallon Water Truck	n/a - onroad	1	MHDT					0.9499	g/hr
				Pickup Truck Conventional	n/a - onroad	6	LDT2					0.3620	g/hr
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					0.6688	g/hr
												Clearing and Grubbing Subtotal	
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	0.0056	g/hp-hr
				300 HP Dozer	Rubber Tired Dozers	2	300					0.0060	g/hp-hr
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					0.0053	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					0.6688	g/hr
				Pickup Truck Conventional	n/a - onroad	7	LDT2					0.3620	g/hr
												Excavation (From Bank) Subtotal	
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	0.0056	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.3620	g/hr
												Excavation/Dredging (From Barge) Subtotal	
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	0.0056	g/hp-hr
				300 HP Dozer Crawler	Crawler Tractors	1	300					0.0062	g/hp-hr
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					0.6688	g/hr
				Pickup Truck Conventional	n/a - onroad	5	LDT2					0.3620	g/hr
												Riprap - Graded Stone 'C' Subtotal	
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	0.0067	g/hp-hr
				Pickup Truck Conventional	n/a - onroad	4	LDT2					0.3620	g/hr
												Erosion Control Seeding Subtotal	
												09 - Channels and Canals Total	
GRAND TOTAL													

Table L1-707. PM2.5 Exhaust Emissions from

		Maximum Daily Emissions, lbs/day																			
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug
09 - Channels and Canals																					
1	Mobilization and Demobilization	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.09	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
2	Clearing and Grubbing	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.08	**0.10**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
3	Excavation (From Bank)	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**0.11**	**0.15**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
4	Excavation/Dredging (From Barge)	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.08**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
5	Riprap - Graded Stone 'C'	--	--	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
		--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
		--	--	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
		--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
		--	**--**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**	**0.39**
6	Erosion Control Seeding	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	**--**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
		0.17	**0.20**	**0.62**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**
GRAND TOTAL		**0.17**	**0.20**	**0.62**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**	**0.40**

Table L1-707. PM2.5 Exhaust Emissions from

#	Activity	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals										
1	Mobilization and Demobilization	--	--	--	--	0.02	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	0.01	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	0.05	--	--	--	0.0000
		--	**--**	**--**	**--**	**0.09**	**--**	**--**	**--**	**0.0001**
2	Clearing and Grubbing	--	--	--	--	0.02	--	--	--	0.0000
		--	--	--	--	0.07	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	--	--	--	--	--	--	--	0.0001
		--	--	--	--	--	--	--	--	0.0000
		--	**--**	**--**	**--**	**0.08**	**--**	**--**	**--**	**0.0004**
3	Excavation (From Bank)	--	--	--	--	--	--	--	--	0.0002
		--	--	--	--	--	--	--	--	0.0003
		0.03	--	--	--	--	--	--	--	0.0002
		0.07	--	--	--	--	--	--	--	0.0004
		0.04	--	--	--	--	--	--	--	0.0002
		0.15	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0013**
4	Excavation/Dredging (From Barge)	0.05	--	--	--	--	--	--	--	0.0028
		0.03	--	--	--	--	--	--	--	0.0014
		0.08	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0042**
5	Riprap - Graded Stone 'C'	0.05	--	--	--	--	--	--	--	0.0005
		0.03	--	--	--	--	--	--	--	0.0003
		0.27	--	--	--	--	--	--	--	0.0024
		0.03	--	--	--	--	--	--	--	0.0003
		0.39	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0035**
6	Erosion Control Seeding	0.01	--	--	--	--	--	--	--	0.0001
		0.03	0.03	0.03	--	--	--	--	--	0.0002
		0.04	**0.03**	**0.03**	**--**	**--**	**--**	**--**	**--**	**0.0003**
		0.65	**0.03**	**0.03**	**--**	**0.17**	**--**	**--**	**--**	**0.0097**
GRAND TOTAL		**0.65**	**0.03**	**0.03**	**0.00**	**0.17**	**0.00**	**0.00**	**0.00**	**0.0097**

Table L1-708. GHG Exhaust Emissions from Offroad Construction Equipment (River Grading Site) - Mitigated

												Emission Factors					
#	Activity	Quantity	Unit	Crew / Equipment	OFFROAD Name	Equipment Quantity per Crew	Size (hp)	Crew Daily Output	No. of Crews	Total Daily Output	Estimated Duration, Days	CO2	CH4	N2O	CO2e	Units	Annual Emissions, MTCO2e/yr
09 - Channels and Canals																	
1	Mobilization and Demobilization	-	-	Flatbed Truck	n/a - onroad	1	MHDT	-	1	1	2	24535.8	0	0	24535.8	g/hr	0.39
				Extended Boom Pallet Loader	Rough Terrain Forklifts	1	100	-				340.989	0.01013	0	341.242	g/hp-hr	0.55
				Pickup Truck Conventional	n/a - onroad	1	LDT2	-				8626.38	0	0	8626.38	g/hr	0.14
				Temp. Mobile Office Building	n/a - onroad	1	n/a	-				0	0	0	0	g/hr	0.00
				Barge Mounted Excavator	Excavators	1	499	-				323.905	0.00819	0	324.11	g/hp-hr	2.59
												Mobilization and Demobilization Subtotal					**3.66**
2	Clearing and Grubbing	4	ACR	1.5 CY Front End Loader Crawler	Crawler Tractors	1	110	1	1	1	4	363.734	0.01221	0	364.039	g/hp-hr	1.28
				Trailer Mounted Brush Chipper	Shredders	1	140					227.324	0.0068	0	227.494	g/hp-hr	1.02
				Chainsaw	Chainsaws	1	8					395.092	0	0	395.092	g/hp-hr	0.10
				4000 gallon Water Truck	n/a - onroad	1	MHDT					24535.8	0	0	24535.8	g/hr	0.79
				Pickup Truck Conventional	n/a - onroad	6	LDT2					8626.38	0	0	8626.38	g/hr	1.66
				16 CY 3 Axle Dump Truck	n/a - onroad	1	HHDT					34432	0	0	34432	g/hr	1.10
												Clearing and Grubbing Subtotal					**5.94**
3	Excavation (From Bank)	6,652	CY	4.5 CY Hydraulic Excavator	Excavators	1	429	700	1	700	10	323.905	0.00819	0	324.11	g/hp-hr	11.12
				300 HP Dozer	Rubber Tired Dozers	2	300					335.255	0.0091	0	335.483	g/hp-hr	16.10
				3.5 CY Front End Loader Wheel	Rubber Tired Loaders	2	164					306.881	0.00646	0	307.043	g/hp-hr	8.06
				16 CY 3 Axle Dump Truck	n/a - onroad	6	HHDT					34432	0	0	34432	g/hr	16.53
				Pickup Truck Conventional	n/a - onroad	7	LDT2					8626.38	0	0	8626.38	g/hr	4.83
												Excavation (From Bank) Subtotal					**56.64**
4	Excavation/Dredging (From Barge)	44,177	CY	Barge Mounted Excavator	Excavators	1	499	400	1	400	111	323.905	0.00819	0	324.11	g/hp-hr	143.62
				Pickup Truck Conventional	n/a - onroad	4	LDT2					8626.38	0	0	8626.38	g/hr	30.64
												Excavation/Dredging (From Barge) Subtotal					**174.26**
5	Riprap - Graded Stone 'C'	17,546	TN	2.5 CY Hydraulic Excavator	Excavators	2	257	1,000	1	1,000	18	323.905	0.00819	0	324.11	g/hp-hr	23.99
				300 HP Dozer Crawler	Crawler Tractors	1	300					363.751	0.00842	0	363.962	g/hp-hr	15.72
				16 CY 3 Axle Dump Truck	n/a - onroad	23	HHDT					34432	0	0	34432	g/hr	114.04
				Pickup Truck Conventional	n/a - onroad	5	LDT2					8626.38	0	0	8626.38	g/hr	6.21
												Riprap - Graded Stone 'C' Subtotal					**159.96**
6	Erosion Control Seeding	31	ACR	0.8 CY Front End Loader Wheel	Tractors/Loaders/Backhoes	1	97	2	1	2	16	312.57	0.00972	0	312.814	g/hp-hr	3.88
				Pickup Truck Conventional	n/a - onroad	4	LDT2					8626.38	0	0	8626.38	g/hr	4.42
												Erosion Control Seeding Subtotal					**8.30**
																09 - Channels and Canals Total	**408.77**
GRAND TOTAL																	**408.77**

Table L1-709. PM10 Emissions Summary from Fugitive Dust (River Grading Site) - Mitigated

		PM10 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing																			
	Material Handling	n/a	n/a																	
	Grading	0.53	0.53																	
	Bulldozing	n/a	n/a																	
	Unpaved Road Dust	n/a	n/a																	
	Paved Road Dust																			
	Clearing and Grubbing Subtotal	**0.53**	**0.53**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)																			
	Material Handling		n/a	n/a																
	Grading		1.06	1.06																
	Bulldozing		4.70	4.70																
	Unpaved Road Dust		n/a	n/a																
	Paved Road Dust																			
	Excavation (From Bank) Subtotal	--	**5.76**	**5.76**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dredging (From Barge)																			
	Material Handling		n/a																	
	Grading		n/a																	
	Bulldozing		n/a																	
	Unpaved Road Dust		n/a																	
	Paved Road Dust																			
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading			0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Riprap - Graded Stone 'C' Subtotal	--	--	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**
6	Erosion Control Seeding																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.53**	**6.29**	**6.29**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**
GRAND TOTAL		**0.53**	**6.29**	**6.29**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**

Table L1-709. PM10 Emissions Summary from Fugitive I

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization										
	Material Handling						n/a				n/a
	Grading						n/a				n/a
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing										
	Material Handling						n/a				n/a
	Grading						0.53				0.00
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Clearing and Grubbing Subtotal	--	--	--	--	--	**0.53**	--	--	--	**0.00**
3	Excavation (From Bank)										
	Material Handling	n/a									n/a
	Grading		1.06								0.00
	Bulldozing		4.70								0.01
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Excavation (From Bank) Subtotal	--	**5.76**	--	--	--	--	--	--	--	**0.01**
4	Excavation/Dredging (From Barge)										
	Material Handling	n/a									n/a
	Grading	n/a									n/a
	Bulldozing	n/a									n/a
	Unpaved Road Dust	n/a									n/a
	Paved Road Dust										
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'										
	Material Handling	n/a	n/a								n/a
	Grading	0.53	0.53								0.00
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Riprap - Graded Stone 'C' Subtotal	**0.53**	**0.53**	--	--	--	--	--	--	--	**0.00**
6	Erosion Control Seeding										
	Material Handling	n/a	n/a	n/a	n/a						n/a
	Grading	n/a	n/a	n/a	n/a						n/a
	Bulldozing	n/a	n/a	n/a	n/a						n/a
	Unpaved Road Dust	n/a	n/a	n/a	n/a						n/a
	Paved Road Dust										
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.53**	**6.29**	--	--	--	**0.53**	--	--	--	**0.01**
GRAND TOTAL		**0.53**	**6.29**	--	--	--	**0.53**	--	--	--	**0.01**

Table L1-710. PM2.5 Emissions Summary from Fugitive Dust (River Grading Site) - Mitigated

		PM2.5 Daily Emissions Summary, lbs/day																		
#	Activity	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	27-May	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug
09 - Channels and Canals																				
1	Mobilization and Demobilization																			
	Material Handling	n/a																		
	Grading	n/a																		
	Bulldozing	n/a																		
	Unpaved Road Dust	n/a																		
	Paved Road Dust																			
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing																			
	Material Handling	n/a	n/a																	
	Grading	0.06	0.06																	
	Bulldozing	n/a	n/a																	
	Unpaved Road Dust	n/a	n/a																	
	Paved Road Dust																			
	Clearing and Grubbing Subtotal	**0.06**	**0.06**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Excavation (From Bank)																			
	Material Handling		n/a	n/a																
	Grading		0.11	0.11																
	Bulldozing		2.58	2.58																
	Unpaved Road Dust		n/a	n/a																
	Paved Road Dust																			
	Excavation (From Bank) Subtotal	--	**2.70**	**2.70**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Excavation/Dredging (From Barge)																			
	Material Handling		n/a																	
	Grading		n/a																	
	Bulldozing		n/a																	
	Unpaved Road Dust		n/a																	
	Paved Road Dust																			
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading			0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Riprap - Graded Stone 'C' Subtotal	--	--	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**
6	Erosion Control Seeding																			
	Material Handling		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Grading		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Bulldozing		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Unpaved Road Dust		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Paved Road Dust																			
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.06**	**2.75**	**2.75**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**
GRAND TOTAL		**0.06**	**2.75**	**2.75**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**

Table L1-710. PM2.5 Emissions Summary from Fugitive

#	Activity	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep	7-Oct	14-Oct	21-Oct	Annual Emissions, tpy
09 - Channels and Canals											
1	Mobilization and Demobilization										
	Material Handling						n/a				n/a
	Grading						n/a				n/a
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Mobilization and Demobilization Subtotal	--	--	--	--	--	--	--	--	--	--
2	Clearing and Grubbing										
	Material Handling						n/a				n/a
	Grading						0.06				0.00
	Bulldozing						n/a				n/a
	Unpaved Road Dust						n/a				n/a
	Paved Road Dust										
	Clearing and Grubbing Subtotal	--	--	--	--	--	**0.06**	--	--	--	**0.00**
3	Excavation (From Bank)										
	Material Handling		n/a								n/a
	Grading		0.11								0.00
	Bulldozing		2.58								0.01
	Unpaved Road Dust		n/a								n/a
	Paved Road Dust										
	Excavation (From Bank) Subtotal	--	**2.70**	--	--	--	--	--	--	--	**0.01**
4	Excavation/Dredging (From Barge)										
	Material Handling		n/a								n/a
	Grading		n/a								n/a
	Bulldozing		n/a								n/a
	Unpaved Road Dust		n/a								n/a
	Paved Road Dust										
	Excavation/Dredging (From Barge) Subtotal	--	--	--	--	--	--	--	--	--	--
5	Riprap - Graded Stone 'C'										
	Material Handling	n/a	n/a								n/a
	Grading	0.06	0.06								0.00
	Bulldozing	n/a	n/a								n/a
	Unpaved Road Dust	n/a	n/a								n/a
	Paved Road Dust										
	Riprap - Graded Stone 'C' Subtotal	**0.06**	**0.06**	--	--	--	--	--	--	--	**0.00**
6	Erosion Control Seeding										
	Material Handling	n/a	n/a	n/a	n/a						n/a
	Grading	n/a	n/a	n/a	n/a						n/a
	Bulldozing	n/a	n/a	n/a	n/a						n/a
	Unpaved Road Dust	n/a	n/a	n/a	n/a						n/a
	Paved Road Dust										
	Erosion Control Seeding Subtotal	--	--	--	--	--	--	--	--	--	--
	09 - Channels and Canals Total	**0.06**	**2.75**	--	--	--	**0.06**	--	--	--	**0.01**
GRAND TOTAL		**0.06**	**2.75**	--	--	--	**0.06**	--	--	--	**0.01**

River Grading Site
Fugitive Dust Emissions - Unpaved Road Dust (Haul Roads)

Equation (AP-42, Chapter 13.2.2):

$$E = k(s/12)^a(W/3)^b$$

where:
E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)

Variables

k (PM10)	1.5	
k (PM2.5)	0.15	
a	0.9	
b	0.45	
s, %	1.6	crushed limestone (AP-42, Table 13.2.4-1)
W, tons	180	loaded
	74	unloaded

Table L1-711. Mitigated Unpaved Road Dust Emission Factors (lb/VMT)

Weight	PM10	PM2.5
Loaded	1.54	0.15
Unloaded	1.04	0.10
Average	1.29	0.13

Table L1-712. Mitigated Unpaved Road Dust Emissions (River Grading Site)

Activity	Total Daily Output	Total Quantity	Unit	Estimated Duration, Days	VMT per Day	VMT per Year	PM10, lb/day	PM2.5, lb/day	PM10, tpy	PM2.5, tpy
09 - Channels and Canals										
Excavation (From Bank)	700	6,652	CY	10	36	336	18.1	1.8	0.1	0.01

Notes:
Assumes payload of each truck is 100 tons.
Half of truck trips will be loaded and other half will be unloaded.
Only includes materials that will be transported to spoil site by dump trucks.

Distance to borrow area

2 miles (spoils site located within a 1-mile radius of the project access point(s); average of 1 mile travel distance from point of excavation)

Density

1.25 tons/cy

Note: CalEEMod assumes haul trucks can handle 20 tons or 16 cy.

Dust Control

61% reduction from watering at least 3 times per day

Source: CalEEMod

Yolo Bypass - River Grading Area
Marine Emissions

Table L1-713. Propulsion Engine Emission Factors

Vessel Type	Average HP	Average Age	Model Year	Useful Life	Load Factor	Fuel Correction Factor			Deterioration Factor				Zero-Hour Emission Factor (g/bhp-hr)				A
						NOx	PM	ROG	NOx	PM	ROG	CO	NOx	PM	ROG	CO	NOx
Tug Boats	1,274	5	2016	21	0.50	0.948	0.852	0.720	0.21	0.67	0.44	0.25	4.09	0.08	0.68	3.73	2.0356

Note:
Barges and dredgers are not typically self-propelled and emissions from barge/dredger propulsion engines are not estimated.
Model year equal to construction start date (year) minus average age of vessel.
A fuel correction factor of 0.72 for hydrocarbon emissions applied to all diesel-powered engines beginning with the 1994 calendar year.
Starting in 2007, California required the use of ultra low sulfur diesel fuel (ULSD - 15 ppmw sulfur).
SO2 (g/hp-hr) = (S content in X/1,000,000) x (2 SO2/g S) x BSFC (184 g/hp-hr)

Table L1-714. Auxiliary Engine Emission Factors

Vessel Type	Average HP	Average Age	Model Year	Useful Life	Load Factor	Fuel Correction Factor			Deterioration Factor				Zero-Hour Emission Factor (g/bhp-hr)				A
						NOx	PM	ROG	NOx	PM	ROG	CO	NOx	PM	ROG	CO	NOx
Tug Boats	111	5	2016	23	0.31	0.948	0.852	0.720	0.14	0.44	0.28	0.16	5.32	0.22	0.99	3.73	1.61

Note:
Model year equal to construction start date (year) minus average age of vessel.
A fuel correction factor of 0.72 for hydrocarbon emissions will be applied to all diesel-powered engines beginning with the 1994 calendar year.
Starting in 2007, California required the use of ultra low sulfur diesel fuel (ULSD - 15 ppmw sulfur).
SO2 (g/hp-hr) = (S content in X/1,000,000) x (2 SO2/g S) x BSFC (184 g/hp-hr)

Construction Start Date 2021

Table L1-715. Maximum Daily Marine Vessel Emissions

Vessel Type	Quantity	Trips per Day	Hours per Trip	No. Propulsion Engines	No. Auxiliary Engines	Propulsion Engine Emissions (lbs/day)						Auxiliary Engine Emissions (lbs/day)					
						ROG	NOx	CO	SO2	PM10	PM2.5	ROG	NOx	CO	SO2	PM10	PM2.5
09 - Channels and Canals																	
1 - Mobilization and Demobilization																	
Tug Boats	2	1	2	2	2	6.08	45.74	44.40	0.12	0.89	0.82	0.46	3.15	2.34	0.01	0.12	0.11
04 - Excavation/Dredging (From Barge)																	
Tug Boats	1	1	2	2	2	3.04	22.87	22.20	0.06	0.44	0.41	0.23	1.58	1.17	0.01	0.06	0.06

Note:
Hours per trip estimated to assume that marine vessels would be operating 8 hours per day.
PM2.5 emissions estimated using PM10 emissions and the California Emission Inventory and Reporting System (CEIDARS) particulate matter (PM) speciation profile no. 425 for diesel vehicle exhaust.
"Trips" represent one-day trips.

Table L1-716. Annual Marine Vessel Emissions

Vessel Type	Quantity	Trips per project	Hours per Trip	No. Propulsion Engines	No. Auxiliary Engines	Propulsion Engine Emissions (tons/project, metric tons/project for CO2e)							Auxiliary Engine Emissions (tons/project, metric to				
						ROG	NOx	CO	SO2	PM10	PM2.5	CO2e	ROG	NOx	CO	SO2	PM10
09 - Channels and Canals																	
1 - Mobilization and Demobilization																	
Tug Boats	2	111	2	2	2	0.34	2.54	2.46	0.01	0.05	0.05	661.59	0.03	0.18	0.13	0.00	0.01
04 - Excavation/Dredging (From Barge)																	
Tug Boats	1	111	2	2	2	0.17	1.27	1.23	0.00	0.02	0.02	330.80	0.00	0.00	0.00	0.00	0.00

			09 - Channels and Canals Total	**0.51**	**3.81**	**3.70**	**0.01**	**0.07**	**0.07**	**992.39**	**0.03**	**0.18**	**0.13**	**0.00**	**0.01**

Note:

Hours per trip estimated to assume that marine vessels would be operating 8 hours per day.

PM2.5 emissions estimated using PM10 emissions and the California Emission Inventory and Reporting System (CEIDARS) particulate matter (PM) speciation profile no. 425 for diesel vehicle exhaust.

"Trips" represent one-day trips.

ROG, CO, NOx, or PM Emission Estimation Method

$$E = EF_0 \times F \times \left(1 + D \times \frac{A}{UL}\right) \times HP \times LF \times Hr$$

Where:	E	=	amount of emissions of a pollutant (PM and NOx) emitted during one period
	EF_0	=	the model year, horsepower, and engine use (propulsion or auxiliary) specific zero hour emission factor (when engine is new)
	F	=	fuel correction factor that accounts for emission reduction benefits from burning cleaner fuel
	D	=	horsepower and pollutant specific engine deterioration factor, which is the percentage increase of emission factors at the end of the useful life of the engine
	A	=	age of the engine when the emissions are estimated
	UL	=	vessel type and engine use specific engine useful life
	HP	=	rated horsepower of the engine
	LF	=	vessel type and engine use specific engine load factor
	Hr	=	number of annual operating hours of the engine

Source: California Air Resources Board. 2010. Staff Report: Initial Statement of Reasons for the Proposed Rulemaking. Amendments to the Regulations to Reduce Emissions from Diesel Engines on Commercial Harbor Craft Operated Within Cali
http://www.arb.ca.gov/ports/marinevess/harborcraft/hcdocuments.htm

SOx Emission Estimation Method

$$F_c = HP \times LF \times Hr \times BSFC$$

Where:	Fc	=	fuel consumed per engine per year
	HP	=	rated horsepower of the engine
	Hr	=	number of annual operating hours of the engine
	LF	=	vessel type specific engine load factor
	BSFC	=	brake specific fuel consumption rate; 0.078 gal/kW-hr or 184 g/hp-hr

The sulfur content is assumed to be 15ppm per 13 CCR 2281(a).

Conversion Factors
453.6 grams per pound
2000 pounds per ton

PMSIZE Profile
0.92 PM2.5:PM10
Profile No. 425, Diesel Vehicle Exhaust

Conversion Factors
453.6 grams per pound
1,000 kilograms per metric ton
1,000 grams per kilogram

BSFC = 184 g/hp-hr (http://www.arb.ca.gov/regact/2007/chc07/appb.pdf)

Density
0.86 g/mL
7.18 lb/gal

ged Emission Factor (g/bhp-hr)				Fuel Consumption		Emission Factor (kg/hr)			
PM10	ROG	CO	SO2	(lb/hr)	(gal/hr)	CO2	CH4	N2O	CO2e
0.04	0.27	1.98	0.0055	517	72	735.27	0.004	0.032	745.04
					GWP	1	25	298	

ged Emission Factor (g/bhp-hr)				Fuel Consumption		Emission Factor (kg/hr)			
PM10	ROG	CO	SO2	(lb/hr)	(gal/hr)	CO2	CH4	N2O	CO2e
0.06	0.23	1.20	0.0055	45	6	64.06	0.0004	0.0028	64.91
					GWP	1	25	298	

Total Engine Emissions (lbs/day)					
ROG	NOx	CO	SO2	PM10	PM2.5
6.54	48.89	46.74	0.13	1.01	0.93
3.27	24.45	23.37	0.07	0.51	0.47

ns/project for CO2e		Total Engine Emissions (tons/project, metric tons/project for CO2e)						
PM2.5	CO2e	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e
0.01	661.59	0.36	2.71	2.59	0.01	0.06	0.05	1,323.19
0.00	330.80	0.17	1.27	1.23	0.00	0.02	0.02	661.59

0.01	**992.39**	**0.53**	**3.98**	**3.83**	**0.01**	**0.08**	**0.07**	**1,984.78**

Yolo Bypass - River Grading Area
Marine Emissions

Table L1-717. Annual Marine Vessel Emissions - River Grading Area

	Propulsion Engine Emissions (tons/project, metric tons/project for CO2e)							Auxiliary Engine Emissions (tons/project, metric tons/project for CO2e)							Total Engine Emissions (tons/project, metric tons/project for CO2e)						
Vessel Type	**ROG**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**	**CO2e**	**ROG**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**	**CO2e**	**ROG**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**	**CO2e**
09 - Channels and Canals																					
1 - Mobilization and Demobilization																					
Tug Boats	0.34	0.38	2.46	0.01	0.05	0.05	661.59	0.03	0.03	0.13	0.00	0.01	0.01	661.59	0.36	0.41	2.59	0.01	0.06	0.05	1,323.19
04 - Excavation/Dredging (From Barge)																					
Tug Boats	0.17	0.19	1.23	0.00	0.02	0.02	330.80	0.00	0.00	0.00	0.00	0.00	0.00	330.80	0.17	0.19	1.23	0.00	0.02	0.02	661.59
Total	**0.51**	**0.57**	**3.70**	**0.01**	**0.07**	**0.07**	**992.39**	**0.03**	**0.03**	**0.13**	**0.00**	**0.01**	**0.01**	**992.39**	**0.53**	**0.60**	**3.83**	**0.01**	**0.08**	**0.07**	**1,984.78**

Note:
Hours per trip estimated to assume that marine vessels would be operating 8 hours per day.
PM2.5 emissions estimated using PM10 emissions and the California Emission Inventory and Reporting System (CEIDARS) particulate matter (PM) speciation profile no. 425 for diesel vehicle exhaust.
"Trips" represent one-day trips.

Mitigation Measures

Ships, Propulsion Engines

-Selective Catalytic Reduction with low sulfur fuel 85% NOx reduction

Ships, Auxiliary Engines

-Selective Catalytic Reduction with low sulfur fuel 85% NOx reduction

Tug Boats 61% VOC reduction
Crew and Supply 52% VOC reduction

http://www.aqmd.gov/ceqa/handbook/mitigation/ogv/TableIX.doc

Yolo Bypass - River Grading Area
Data Tables

Table L1-718. California Commercial Harbor Craft Engine Profile by Vessel Type

	Propulsion Engine			Auxiliary Engine		
Vessel Type	# of Engines per Vessel	Average Annual Operating Hrs	Useful Life	# of Engines per Vessel	Average Annual Operating Hrs	Useful Life
Commercial Fishing	1.12	1,250	21	0.46	1,633	15
Charter Fishing	1.77	1,622	16	0.75	2,077	15
Ferry/excursion Vessels	2.01	1,843	20	1.23	1,254	20
Crew and Supply	2.5	788	22	1.1	3,036	22
Pilot Vessels	1.7	1,031	19	0.14	994	25
Tug Boats	1.92	2,274	21	1.59	2,486	23
Tow Boats	2.1	1,993	26	1.17	2,965	25
Work Boats	1.46	675	17	0.32	750	23
Others	1.11	779	23	0.46	805	22

Source: California Air Resources Board (CARB). Emissions Estimation Methodology for Commercial Harbor Craft Operating in California, Appendix B [2007 Rulemaking], Available online at: https://www.arb.ca.gov/regact/2007/chc07/appb.pdf [Accessed on: October 2, 2017].

Table L1-719. Engine Load Factor by Vessel Type and by Engine Use

Vessel Type	Propulsion Engine Load	Auxiliary Engine Load
Commercial Fishing	0.27	0.43
Charter Fishing	0.52	0.43
Ferry/excursion Vessel	0.42	0.43
Crew and Supply	0.45	0.43
Pilot Vessels	0.51	0.43
Tug Boats	0.5	0.31
Tow Boats	0.68	0.43
Work Boats	0.45	0.43
Others	0.52	0.43

Source: CARB. Emissions Estimation Methodology for Commercial Harbor Craft Operating in California, Appendix B [2007 Rulemaking], Available online at: https://www.arb.ca.gov/regact/2007/chc07/appb.pdf [Accessed on: October 2, 2017].

Table L1-720. Fuel Correction Factor

Calendar Years	Horsepower Range	Model Years	NOx	PM
1994-2006	<25	Pre-1995	0.930	0.750
	25-50	Pre-1999		
	51-100	Pre-1998		
	101-175	Pre-1997		
	176+	Pre-1996		
	<25	1995+	0.948	0.822
	25-50	1999-2010		
	51-100	1998-2010		
	101-175	1997-2010		
	176+	1996-2010		

2007+	<25	Pre-1995	0.930	0.720
	25-50	Pre-1999		
	51-100	Pre-1998		
	101-175	Pre-1997		
	176+	Pre-1996		
	<25	1995+	0.948	0.800
	25-50	1999-2010		
	51-100	1998-2010		
	101-175	1997-2010		
	176+	1996-2010		
	All	2011+	0.948	0.852

Source: CARB. Emissions Estimation Methodology for Commercial Harbor Craft Operating in California, Appendix B [2007 Rulemaking], Available online at: https://www.arb.ca.gov/regact/2007/chc07/appb.pdf [Accessed on: October 2, 2017].

Table L1-721. Engine Deterioration Factor

Horsepower Range	NOx	PM	HC	CO
25-50	0.06	0.31	0.51	0.41
51-250	0.14	0.44	0.28	0.16
>251	0.21	0.67	0.44	0.25

Source: CARB. Emissions Estimation Methodology for Commercial Harbor Craft Operating in California, Appendix B [2007 Rulemaking], Available online at: https://www.arb.ca.gov/regact/2007/chc07/appb.pdf [Accessed on: October 2, 2017].

Table L1-722. Commercial Harbor Craft Emission Factor Table (Zero-Hour)

		Main Engines				Auxiliary Engines			
HP Range	Model Year	**NOx**	**PM**	**ROG**	**CO**	**NOx**	**PM**	**ROG**	**CO**
25-50 hp	pre-1998	8.14	0.72	1.84	3.65	6.90	0.64	2.19	5.15
	1998-1999	8.14	0.72	1.80	3.65	6.90	0.64	2.14	5.15
	2000-2004	7.31	0.72	1.80	3.65	6.90	0.64	2.14	5.15
	2005-2008	5.32	0.30	1.80	3.73	5.32	0.30	2.14	3.73
	2009-2020	5.32	0.22	1.80	3.73	5.32	0.22	2.14	3.73
51-120 hp	pre-1997	15.34	0.80	1.44	3.50	13.00	0.71	1.71	4.94
	1997-1999	10.33	0.66	0.99	2.55	8.75	0.58	1.18	3.59
	2000-2004	7.31	0.66	0.99	2.55	7.31	0.58	1.18	3.59
	2005-2008	5.32	0.30	0.99	3.73	5.32	0.30	1.18	3.73
	2009-2020	5.32	0.22	0.99	3.73	5.32	0.22	1.18	3.73
121-175 hp	pre-1971	16.52	0.73	1.32	3.21	14.00	0.65	1.57	4.53
	1971-1978	15.34	0.63	1.10	3.21	13.00	0.55	1.31	4.53
	1979-1983	14.16	0.52	1.00	3.21	12.00	0.46	1.19	4.53
	1984-1986	12.98	0.52	0.94	3.14	11.00	0.46	1.12	4.43
	1987-1995	12.98	0.52	0.88	3.07	11.00	0.46	1.05	4.33
	1996-1999	9.64	0.36	0.68	1.97	8.17	0.32	0.81	2.78
	2000-2003	7.31	0.36	0.68	1.97	7.31	0.32	0.81	2.78
	2004-2012	5.10	0.22	0.68	3.73	5.10	0.22	0.81	3.73
	2013-2020	3.80	0.09	0.68	3.73	3.80	0.09	0.81	3.73
176-250 hp	pre-1971	16.52	0.73	1.32	3.21	14.00	0.65	1.57	4.53
	1971-1978	15.34	0.63	1.10	3.21	13.00	0.55	1.31	4.53
	1979-1983	14.16	0.52	1.00	3.21	12.00	0.46	1.19	4.53
	1984-1986	12.98	0.52	0.94	3.14	11.00	0.46	1.12	4.43
	1987-1994	12.98	0.52	0.88	3.07	11.00	0.46	1.05	4.33
	1995-1999	9.64	0.36	0.68	1.97	8.17	0.32	0.81	2.78
	2000-2003	7.31	0.36	0.68	1.97	7.31	0.32	0.81	2.78
	2004-2013	5.10	0.15	0.68	3.73	5.10	0.15	0.81	3.73
	2014-2020	3.99	0.08	0.68	3.73	3.99	0.08	0.81	3.73

251-500 hp	pre-1971	16.52	0.70	1.26	3.07	14.00	0.62	1.50	4.33
	1971-1978	15.34	0.60	1.05	3.07	13.00	0.53	1.25	4.33
	1979-1983	14.16	0.50	0.95	3.07	12.00	0.45	1.13	4.33
	1984-1986	12.98	0.50	0.90	3.07	11.00	0.45	1.07	4.33
	1987-1994	12.98	0.50	0.84	2.99	11.00	0.45	1.00	4.22
	1995-1999	9.64	0.36	0.68	1.97	8.17	0.32	0.81	2.78
	2000-2003	7.31	0.36	0.68	1.97	7.31	0.32	0.81	2.78
	2004-2013	5.10	0.15	0.68	3.73	5.10	0.15	0.81	3.73
	2014-2020	3.99	0.08	0.68	3.73	3.99	0.08	0.81	3.73
501-750 hp	pre-1971	16.52	0.70	1.26	3.07	14.00	0.62	1.50	4.33
	1971-1978	15.34	0.60	1.05	3.07	13.00	0.53	1.25	4.33
	1979-1983	14.16	0.50	0.95	3.07	12.00	0.45	1.13	4.33
	1984-1986	12.98	0.50	0.90	3.07	11.00	0.45	1.07	4.33
	1987-1994	12.98	0.50	0.84	2.99	11.00	0.45	1.00	4.22
	1995-1999	9.64	0.36	0.68	1.97	8.17	0.32	0.81	2.78
	2000-2006	7.31	0.36	0.68	1.97	7.31	0.32	0.81	2.78
	2007-2012	5.10	0.15	0.68	3.73	5.10	0.15	0.81	3.73
	2013-2020	3.99	0.08	0.68	3.73	3.99	0.08	0.81	3.73

Table L1-722. Commercial Harbor Craft Emission Factor Table (Zero-Hour)

HP Range	Model Year	Main Engines				Auxiliary Engines			
		NOx	**PM**	**ROG**	**CO**	**NOx**	**PM**	**ROG**	**CO**
751-1900 hp	pre-1971	16.52	0.70	1.26	3.07	14.00	0.62	1.50	4.33
	1971-1978	15.34	0.60	1.05	3.07	13.00	0.53	1.25	4.33
	1979-1983	14.16	0.50	0.95	3.07	12.00	0.45	1.13	4.33
	1984-1986	12.98	0.50	0.90	3.07	11.00	0.45	1.07	4.33
	1987-1998	12.98	0.50	0.84	2.99	11.00	0.45	1.00	4.22
	1999	9.64	0.36	0.68	1.97	8.17	0.32	0.81	2.78
	2000-2006	7.31	0.36	0.68	1.97	7.31	0.32	0.81	2.78
	2007-2011	5.53	0.20	0.68	3.73	5.53	0.20	0.81	3.73
	2012-2016	4.09	0.08	0.68	3.73	4.09	0.08	0.81	3.73
	2017-2020	1.30	0.03	0.18	3.73	1.30	0.03	0.18	3.73
1901-3300 hp	pre-1971	16.52	0.70	1.26	3.07	14.00	0.62	1.50	4.33
	1971-1978	15.34	0.60	1.05	3.07	13.00	0.53	1.25	4.33
	1979-1983	14.16	0.50	0.95	3.07	12.00	0.45	1.13	4.33
	1984-1986	12.98	0.50	0.90	3.07	11.00	0.45	1.07	4.33
	1987-1998	12.98	0.50	0.84	2.99	11.00	0.45	1.00	4.22
	1999	9.64	0.36	0.68	1.97	8.17	0.32	0.81	2.78
	2000-2006	7.31	0.36	0.68	1.97	7.31	0.32	0.81	2.78
	2007-2012	5.53	0.20	0.68	3.73	5.53	0.20	0.81	3.73
	2013-2015	4.37	0.10	0.68	3.73	4.37	0.10	0.81	3.73
	2016-2020	1.30	0.03	0.18	3.73	1.30	0.03	0.18	3.73
3301-5000 hp	pre-1971	16.52	0.70	1.26	3.07	14.00	0.62	1.50	4.33
	1971-1978	15.34	0.60	1.05	3.07	13.00	0.53	1.25	4.33
	1979-1983	14.16	0.50	0.95	3.07	12.00	0.45	1.13	4.33
	1984-1986	12.98	0.50	0.90	3.07	11.00	0.45	1.07	4.33
	1987-1998	12.98	0.50	0.84	2.99	11.00	0.45	1.00	4.22
	1999	9.64	0.36	0.68	1.97	8.17	0.32	0.81	2.78
	2000-2006	7.31	0.36	0.68	1.97	7.31	0.32	0.81	2.78
	2007-2013	5.53	0.20	0.68	3.73	5.53	0.20	0.81	3.73
	2014-2015	4.94	0.25	0.68	3.73	4.94	0.25	0.81	3.75
	2016-2020	1.30	0.03	0.18	3.73	1.30	0.03	0.18	3.75

Source: CARB. Emissions Estimation Methodology for Commercial Harbor Craft Operating in California, Appendix B [2007 Rulemaking], Available online at: https://www.arb.ca.gov/regact/2007/chc07/appb.pdf [Accessed on: October 2, 2017].

Table L1-723. Quantity of Auxiliary Engines and Average Horsepower

Vessel Category	# Auxiliary Engines	Horsepower		min	max
		Range	Average		
Commercial Fishing	212	6 - 300	71	30	111
Tug Boats	120	7 - 300	111		
Ferry/excursion Vessels	98	10 - 400	94		
Charter Fishing	82	4 - 185	50		
Others	34	10 - 240	56		
Work Boats	26	9 - 221	101		
Crew and Supply	22	16 - 110	79		
Tow Boats	21	18 - 175	79		
Pilot Vessels	1	N/A	30		

Source: CARB. 2004. Statewide Commercial Harbor Craft Survey, Final Report. March. Available online at: https://www.arb.ca.gov/ports/marinevess/documents/hcsurveyrep0304.pdf [Accessed on: October 2, 2017.

Note:

Vessel categories changed from cited document to be consistent with names used in 2007 and 2010 rulemaking documents to assist with VLOOKUP formulas.

Table L1-724. Quantity of Propulsion Engines and Average Horsepower

Vessel Category	# Propulsion Engines	Horsepower		min	max
		Range	Average		
Commercial Fishing	516	8 – 1,485	230	230	1274
Charter Fishing	192	80 – 1,400	381		
Ferry/excursion Vessels	164	35 – 3,110	733		
Tug Boats	144	24 – 3,600	1,274		
Work Boats	99	15 – 1,300	239		
Others	89	28 - 764	281		
Crew and Supply	50	225 - 750	439		
Tow Boats	38	24 – 1,500	500		
Pilot Vessels	15	230 - 550	408		

Source: CARB. 2004. Statewide Commercial Harbor Craft Survey, Final Report. March. Available online at: https://www.arb.ca.gov/ports/marinevess/documents/hcsurveyrep0304.pdf [Accessed on: October 2, 2017.

Note:

Vessel categories changed from cited document to be consistent with names used in 2007 and 2010 rulemaking documents to assist with VLOOKUP formulas.

Table L1-725. Vessel Age

Vessel Category	Age
Charter Fishing	27
Ferry/excursion Vessels	27
Tug Boats	32
Commercial Fishing	32
Pilot Vessels	24
Work Boats	27
Crew and Supply	27
Tow Boats	39

Source: CARB. 2004. Statewide Commercial Harbor Craft Survey, Final Report. March. Available online at: https://www.arb.ca.gov/ports/marinevess/documents/hcsurveyrep0304.pdf [Accessed on: October 2, 2017.

Note:

Vessel categories changed from cited document to be consistent with names used in 2007 and 2010 rulemaking documents to assist with VLOOKUP formulas.

Yolo Bypass - River Grading Area
GHG Emission Factors

Table 726. US Default CO2 Emission Factors for Transport Fuels

Fuel Type	Carbon Content (Per Unit Energy)	Heat Content	Fraction Oxidized	CO2 Emission Factor (Per Unit Volume)
Fuels Measured in Gallons	**kg C / MMBtu**	**MMBtu / barrel**		**kg CO2 / gallon**
Gasoline	19.2	5.25	1	8.78
Diesel Fuel	20.2	5.80	1	10.21
Aviation Gasoline	18.9	5.04	1	8.31
Jet Fuel (Jet A or A-1)	19.7	5.67	1	9.75
Kerosene	20.5	5.67	1	10.15
Residual Fuel Oil No. 5	19.9	5.88	1	10.21
Residual Fuel Oil No. 6	20.5	6.30	1	11.27
Crude Oil	20.3	5.80	1	10.29
Biodiesel (B100)	20.1	5.38	1	9.45
Ethanol (E100)	18.7	3.53	1	5.75
Methanol	NA	NA	1	4.10
Liquefied Natural Gas (LNG)	NA	NA	1	4.46
Liquefied Petroleum Gas (LPG)	17.2	3.86	1	5.68
Propane (Liquid)	16.8	3.82	1	5.72
Ethane	17.1	2.86	1	4.11
Isobutane	17.7	4.16	1	6.30
Butane	17.8	4.33	1	6.54
Fuels Measured in Standard Cubic Feet	**kg C / MMBtu**	**Btu / Standard cubic foot**		**kg CO2 / Standard cubic foot**
Compressed Natural Gas (CNG)	14.5	1,027	1	0.05444
Propane (Gas)	16.8	2,516	1	0.15

Source: 2016 Climate Registry Default Emission Factors, Table 13.1
https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf

Table 727. US Default CH4 and N2O Emission Factors for Non-Highway Vehicles

Vehicle Type / Fuel Type	CH4 (g / gallon)	N2O (g / gallon)
Ships and Boats		
Residual Fuel Oil	0.11	0.60
Diesel Fuel	0.06	0.45
Gasoline	0.64	0.22
Locomotives		
Diesel Fuel	0.80	0.26
Agricultural Equipment		
Gasoline	1.26	0.22
Diesel Fuel	1.44	0.26
Construction/Mining Equipment		
Gasoline	0.50	0.22
Diesel Fuel	0.58	0.26
Other Non-Highway		
Snowmobiles (Gasoline)	0.50	0.22
Other Recreational (Gasoline)	0.50	0.22
Other Small Utility (Gasoline)	0.50	0.22
Other Large Utility (Gasoline)	0.50	0.22
Other Large Utility (Diesel)	0.58	0.26
Aircraft		
Jet Fuel	0.00	0.31
Aviation Gasoline	7.05	0.11

Source: 2016 Climate Registry Default Emission Factors, Table 13.7
https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf

Table L1-726. Unmitigated Maximum Daily Operational Emissions for Alternative 1

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	7	135	77	0	4	4	Yolo
Supplemental Fish Passage West	7	135	77	0	4	4	Sutter
Downstream Reach	3	36	46	0	2	2	Yolo
Agricultural Crossing 1	4	75	41	0	2	2	Yolo
Total Emissions for Peak Day	20	381	240	1	12	11	
Maximum Daily Operational Emissions in Yolo County	**14**	**246**	**163**	**1**	**8**	**8**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**7**	**135**	**77**	**0**	**4**	**4**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Table L1-727. Unmitigated Maximum Daily Operational Emissions for Alternative 2

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	7	135	77	0	4	4	Yolo
Supplemental Fish Passage West	7	135	77	0	4	4	Sutter
Downstream Reach	3	36	46	0	2	2	Yolo
Agricultural Crossing 1	4	75	41	0	2	2	Yolo
Total Emissions for Peak Day	20	381	240	1	12	11	
Maximum Daily Operational Emissions in Yolo County	**14**	**246**	**163**	**1**	**8**	**8**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**7**	**135**	**77**	**0**	**4**	**4**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Table L1-728. Unmitigated Maximum Daily Operational Emissions for Alternative 3

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	7	138	78	0	4	4	Both
Supplemental Fish Passage East	7	135	77	0	4	4	Yolo
Downstream Reach	3	36	46	0	2	2	Yolo
Agricultural Crossing 1	4	75	41	0	2	2	Yolo
Total Emissions for Peak Day	20	384	242	1	12	11	
Maximum Daily Operational Emissions in Yolo County	**20**	**384**	**242**	**1**	**12**	**11**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**7**	**138**	**78**	**0**	**4**	**4**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-729. Unmitigated Maximum Daily Operational Emissions for Alternative 4

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	7	138	78	0	4	4	Both
Supplemental Fish Passage East	7	135	77	0	4	4	Yolo
Downstream Reach	3	36	46	0	2	2	Yolo
Agricultural Crossing 1	4	75	41	0	2	2	Yolo
Northern Water Control Structure Improvements	7	141	79	0	4	4	Yolo
Southern Water Control Structure Improvements	7	141	79	0	4	4	Yolo
Total Emissions for Peak Day	34	665	399	1	20	19	
Maximum Daily Operational Emissions in Yolo County	**34**	**665**	**399**	**1**	**20**	**19**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	Yes	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**7**	**138**	**78**	**0**	**4**	**4**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-730. Unmitigated Maximum Daily Operational Emissions for Alternative 5

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	9	174	104	0	6	5	Yolo
Supplemental Fish Passage West	7	135	77	0	4	4	Sutter
Agricultural Crossing 1	4	75	41	0	2	2	Yolo
Total Emissions for Peak Day	19	384	222	1	12	11	
Maximum Daily Operational Emissions in Yolo County	**13**	**249**	**145**	**0**	**8**	**8**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**7**	**135**	**77**	**0**	**4**	**4**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Table L1-731. Unmitigated Maximum Daily Operational Emissions for Alternative 6

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	10	198	114	0	6	5	Both
Supplemental Fish Passage East	7	135	77	0	4	4	Yolo
Downstream Reach	3	36	46	0	2	2	Yolo
Agricultural Crossing 1	4	75	41	0	2	2	Yolo
Total Emissions for Peak Day	23	444	277	1	14	13	
Maximum Daily Operational Emissions in Yolo County	**23**	**444**	**277**	**1**	**14**	**13**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**10**	**198**	**114**	**0**	**6**	**5**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-732. Unmitigated Annual Operational Emissions for Alternative 1

Component	Annual Emissions (tpy)						CO2	County
	ROG	CO	NOx	SO2	PM10	PM2.5	(MT/year)	
Intake Channel, Headworks, and Outlet Channel	0.1	1.8	0.8	0.0	0.0	0.0	285	Yolo
Supplemental Fish Passage West	0.0	0.1	0.0	0.0	0.0	0.0	13	Sutter
Downstream Reach	0.0	0.1	0.1	0.0	0.0	0.0	19	Yolo
Agricultural Crossing 1	0.0	0.0	0.0	0.0	0.0	0.0	7	Yolo
Total Annual Emissions	0.1	2.0	1.0	0.0	0.0	0.0	324	
Annual Emissions in Yolo County	**0.1**	**1.9**	**0.9**	**0.0**	**0.0**	**0.0**	**311**	
Yolo-Solano AQMD Significance Threshold	10	n/a	10	n/a	n/a	n/a	1,100	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	n/a	n/a	No	
Annual Emissions in Sutter County	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**13**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	n/a	n/a	1,100	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	n/a	n/a	No	

Note: Totals may not add exactly because of rounding.

Table L1-733. Unmitigated Annual Operational Emissions for Alternative 2

Component	Annual Emissions (tpy)						CO2	County
	ROG	CO	NOx	SO2	PM10	PM2.5	(MT/year)	
Intake Channel, Headworks, and Outlet Channel	0.1	1.9	1.0	0.0	0.0	0.0	310	Yolo
Supplemental Fish Passage West	0.0	0.1	0.0	0.0	0.0	0.0	13	Sutter
Downstream Reach	0.0	0.1	0.1	0.0	0.0	0.0	19	Yolo
Agricultural Crossing 1	0.0	0.0	0.0	0.0	0.0	0.0	7	Yolo
Total Annual Emissions	0.1	2.1	1.1	0.0	0.1	0.1	350	
Annual Emissions in Yolo County	**0.1**	**2.1**	**1.1**	**0.0**	**0.1**	**0.1**	**311**	
Yolo-Solano AQMD Significance Threshold	10	n/a	10	n/a	n/a	n/a	1,100	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	n/a	n/a	No	
Annual Emissions in Sutter County	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**13**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	n/a	n/a	1,100	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	n/a	n/a	No	

Note: Totals may not add exactly because of rounding.

Table L1-734. Unmitigated Annual Operational Emissions for Alternative 3

Component	Annual Emissions (tpy)						CO2	County
	ROG	CO	NOx	SO2	PM10	PM2.5	(MT/year)	
Intake Channel, Headworks, and Outlet Channel	0.1	2.0	1.0	0.0	0.1	0.0	327	Both
Supplemental Fish Passage East	0.0	0.1	0.0	0.0	0.0	0.0	13	Yolo
Downstream Reach	0.0	0.1	0.1	0.0	0.0	0.0	19	Yolo
Agricultural Crossing 1	0.0	0.0	0.0	0.0	0.0	0.0	7	Yolo
Total Annual Emissions	0.1	2.2	1.2	0.0	0.1	0.1	366	
Annual Emissions in Yolo County	0.1	2.2	1.2	0.0	0.1	0.1	366	
Yolo-Solano AQMD Significance Threshold	10	n/a	10	n/a	n/a	n/a	1,100	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	n/a	n/a	No	
Annual Emissions in Sutter County	0.0	0.0	0.0	0.0	0.0	0.0	7	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	n/a	n/a	1,100	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	n/a	n/a	No	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-735. Unmitigated Annual Operational Emissions for Alternative 4

Component	Annual Emissions (tpy)						CO2	County
	ROG	CO	NOx	SO2	PM10	PM2.5	(MT/year)	
Intake Channel, Headworks, and Outlet Channel	0.1	1.2	0.7	0.0	0.0	0.0	200	Both
Supplemental Fish Passage East	0.0	0.1	0.0	0.0	0.0	0.0	13	Yolo
Downstream Reach	0.0	0.1	0.1	0.0	0.0	0.0	19	Yolo
Agricultural Crossing 1	0.0	0.0	0.0	0.0	0.0	0.0	7	Yolo
Northern Water Control Structure Improvements	0.0	0.3	0.3	0.0	0.0	0.0	61	Yolo
Southern Water Control Structure Improvements	0.0	0.5	0.5	0.0	0.0	0.0	111	Yolo
Total Annual Emissions	0.1	2.2	1.6	0.0	0.1	0.1	411	
Annual Emissions in Yolo County	0.1	2.2	1.6	0.0	0.1	0.1	411	
Yolo-Solano AQMD Significance Threshold	10	n/a	10	n/a	n/a	n/a	1,100	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	n/a	n/a	No	
Annual Emissions in Sutter County	0.1	1.2	0.7	0.0	0.0	0.0	200	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	n/a	n/a	1,100	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	n/a	n/a	No	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-736. Unmitigated Annual Operational Emissions for Alternative 5

Component	Annual Emissions (tpy)						CO2	County
	ROG	CO	NOx	SO2	PM10	PM2.5	(MT/year)	
Intake Channel, Headworks, and Outlet Channel	0.1	2.5	1.7	0.0	0.1	0.1	387	Yolo
Supplemental Fish Passage West	0.0	0.1	0.0	0.0	0.0	0.0	13	Sutter
Agricultural Crossing 1	0.0	0.0	0.0	0.0	0.0	0.0	7	Yolo
Total Annual Emissions	0.2	2.6	1.8	0.0	0.1	0.1	407	
Annual Emissions in Yolo County	0.2	2.5	1.7	0.0	0.1	0.1	394	
Yolo-Solano AQMD Significance Threshold	10	n/a	10	n/a	n/a	n/a	1,100	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	n/a	n/a	No	
Annual Emissions in Sutter County	0.0	0.1	0.0	0.0	0.0	0.0	13	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	n/a	n/a	1,100	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	n/a	n/a	No	

Note: Totals may not add exactly because of rounding.

Table L1-737. Unmitigated Annual Operational Emissions for Alternative 6

Component	Annual Emissions (tpy)						CO2	County
	ROG	CO	NOx	SO2	PM10	PM2.5	(MT/year)	
Intake Channel, Headworks, and Outlet Channel	0.2	4.0	2.1	0.0	0.1	0.1	664	Both
Supplemental Fish Passage East	0.0	0.1	0.0	0.0	0.0	0.0	13	Yolo
Downstream Reach	0.0	0.1	0.1	0.0	0.0	0.0	19	Yolo
Agricultural Crossing 1	0.0	0.0	0.0	0.0	0.0	0.0	7	Yolo
Total Annual Emissions	0.2	4.2	2.3	0.0	0.1	0.1	703	
Annual Emissions in Yolo County	0.2	4.2	2.3	0.0	0.1	0.1	703	
Yolo-Solano AQMD Significance Threshold	10	n/a	10	n/a	n/a	n/a	1,100	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	n/a	n/a	No	
Annual Emissions in Sutter County	0.2	4.0	2.1	0.0	0.1	0.1	664	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	n/a	n/a	1,100	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	n/a	n/a	No	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-738. Alternative 1 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	O&M Road Regrading	12' Blade Grader	Graders	187	1	1	3	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	15	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	30	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	60	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	2	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	14	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	6	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	3	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-738. Alternative 1 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.00	0.01	0.00	0.00	0.00	1.56
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**1.56**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.04	0.04	0.00	0.00	0.00	4.80
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.14	2.63	1.62	0.00	0.11	0.10	0.00	0.04	0.02	0.00	0.00	0.00	4.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.06	1.60	0.65	0.00	0.03	0.03	245.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.01	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.02	0.05	0.00	0.00	0.00	8.64
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.02	0.01	0.00	0.00	0.00	2.46
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.63	**72.87**	**44.06**	**0.16**	**2.19**	**2.02**	**0.07**	**1.72**	**0.77**	**0.00**	**0.04**	**0.04**	**268.04**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.01	0.01	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.08	0.03	0.00	0.00	0.00	12.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.09**	**0.04**	**0.00**	**0.00**	**0.00**	**14.36**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
16	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.55	**135.20**	**76.52**	**0.28**	**3.92**	**3.61**	**0.07**	**1.81**	**0.82**	**0.00**	**0.04**	**0.04**	**284.73**

Table L1-739. Alternative 2 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	8	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	29	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	57	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	60	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	3	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	30	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	15	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	3	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-739. Alternative 2 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.01	0.02	0.00	0.00	0.00	4.15
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**4.15**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.01	0.07	0.07	0.00	0.01	0.01	9.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.14	2.63	1.62	0.00	0.11	0.10	0.00	0.07	0.05	0.00	0.00	0.00	9.43
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.06	1.60	0.65	0.00	0.03	0.03	245.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.01	0.00	0.00	0.00	1.85
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.01	0.05	0.10	0.00	0.00	0.00	18.51
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.04	0.02	0.00	0.00	0.00	6.14
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.63	**72.87**	**44.06**	**0.16**	**2.19**	**2.02**	**0.08**	**1.84**	**0.89**	**0.00**	**0.05**	**0.04**	**291.17**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.01	0.01	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.08	0.03	0.00	0.00	0.00	12.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.09**	**0.04**	**0.00**	**0.00**	**0.00**	**14.36**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
16	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.55	**135.20**	**76.52**	**0.28**	**3.92**	**3.61**	**0.08**	**1.94**	**0.96**	**0.00**	**0.05**	**0.04**	**310.44**

Table L1-740. Alternative 3 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	10	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	35	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	35	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	60	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	5	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	40	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	24	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	3	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-740. Alternative 3 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.01	0.03	0.00	0.00	0.00	5.19
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.19**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.01	0.09	0.08	0.00	0.01	0.01	11.20
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.28	5.25	3.25	0.01	0.22	0.21	0.00	0.09	0.06	0.00	0.00	0.00	11.58
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.06	1.60	0.65	0.00	0.03	0.03	245.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.01	0.02	0.00	0.00	0.00	3.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.01	0.06	0.14	0.00	0.01	0.00	24.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.06	0.03	0.00	0.00	0.00	9.83
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.77	**75.49**	**45.68**	**0.16**	**2.30**	**2.12**	**0.08**	**1.92**	**0.97**	**0.00**	**0.05**	**0.05**	**306.33**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.01	0.01	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.08	0.03	0.00	0.00	0.00	12.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.09**	**0.04**	**0.00**	**0.00**	**0.00**	**14.36**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
16	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.69	**137.82**	**78.14**	**0.29**	**4.04**	**3.71**	**0.09**	**2.02**	**1.04**	**0.00**	**0.05**	**0.05**	**326.64**

Table L1-741. Alternative 4 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	10	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	35	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	35	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	30	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	5	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	40	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	24	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	2	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-741. Alternative 4 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.01	0.03	0.00	0.00	0.00	5.19
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.19**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.01	0.09	0.08	0.00	0.01	0.01	11.20
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.28	5.25	3.25	0.01	0.22	0.21	0.00	0.09	0.06	0.00	0.00	0.00	11.58
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.03	0.80	0.32	0.00	0.02	0.01	122.84
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.01	0.02	0.00	0.00	0.00	3.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.01	0.06	0.14	0.00	0.01	0.00	24.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.06	0.03	0.00	0.00	0.00	9.83
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.77	**75.49**	**45.68**	**0.16**	**2.30**	**2.12**	**0.05**	**1.12**	**0.65**	**0.00**	**0.03**	**0.03**	**183.49**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.01	0.01	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.05	0.02	0.00	0.00	0.00	8.19
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.06**	**0.03**	**0.00**	**0.00**	**0.00**	**10.27**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
16	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.69	**137.82**	**78.14**	**0.29**	**4.04**	**3.71**	**0.06**	**1.19**	**0.70**	**0.00**	**0.04**	**0.03**	**199.71**

Table L1-742. Alternative 5 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	48	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	4	56	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	8	56	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	30	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	5	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	40	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	2	60	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	19	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	2	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-742. Alternative 5 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.01	0.06	0.14	0.00	0.00	0.00	24.89
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.01**	**0.06**	**0.14**	**0.00**	**0.00**	**0.00**	**24.89**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	1.85	19.76	18.83	0.03	1.55	1.43	0.05	0.55	0.53	0.00	0.04	0.04	71.70
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	1.12	21.02	12.98	0.03	0.90	0.83	0.03	0.59	0.36	0.00	0.03	0.02	74.14
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.03	0.80	0.32	0.00	0.02	0.01	122.84
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.01	0.02	0.00	0.00	0.00	3.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.01	0.06	0.14	0.00	0.01	0.00	24.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.38	10.68	4.33	0.02	0.21	0.19	0.01	0.32	0.13	0.00	0.01	0.01	49.13
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		6.19	**111.41**	**71.71**	**0.22**	**4.25**	**3.91**	**0.13**	**2.33**	**1.50**	**0.00**	**0.10**	**0.09**	**345.85**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.05	0.04	0.00	0.00	0.00	6.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.05	0.02	0.00	0.00	0.00	8.19
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.01**	**0.10**	**0.07**	**0.00**	**0.00**	**0.00**	**15.39**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
16	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		9.11	**173.74**	**104.16**	**0.35**	**5.98**	**5.50**	**0.15**	**2.50**	**1.71**	**0.00**	**0.11**	**0.10**	**386.89**

Table L1-743. Alternative 6 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	10	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	48	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	48	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	20	60	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	13	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	3	43	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	51	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	6	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-743. Alternative 6 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.01	0.03	0.00	0.00	0.00	5.19
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.19**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.01	0.12	0.11	0.00	0.01	0.01	15.36
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.28	5.25	3.25	0.01	0.22	0.21	0.01	0.13	0.08	0.00	0.01	0.00	15.89
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	3.81	106.76	43.28	0.20	2.10	1.93	0.11	3.20	1.30	0.01	0.06	0.06	491.35
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.02	0.05	0.00	0.00	0.00	8.02
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	1.36	9.53	20.85	0.05	0.78	0.72	0.03	0.20	0.45	0.00	0.02	0.02	79.58
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.14	0.06	0.00	0.00	0.00	20.88
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		6.58	**135.23**	**81.22**	**0.29**	**3.88**	**3.57**	**0.17**	**3.81**	**2.04**	**0.01**	**0.10**	**0.09**	**631.35**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.01	0.01	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.01	0.16	0.06	0.00	0.00	0.00	24.57
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.01**	**0.17**	**0.07**	**0.00**	**0.00**	**0.00**	**26.64**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
16	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		9.51	**197.56**	**113.68**	**0.42**	**5.61**	**5.16**	**0.18**	**3.99**	**2.14**	**0.01**	**0.10**	**0.10**	**663.95**

Table L1-744. Downstream Reach, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	4	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	7	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	7	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	1	0	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	2	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	3	5	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	3	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
															Grand Total

Table L1-744. Downstream Reach, Ope

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.00	0.01	0.00	0.00	0.00	2.07
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.07**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.02	0.02	0.00	0.00	0.00	2.24
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.28	5.25	3.25	0.01	0.22	0.21	0.00	0.02	0.01	0.00	0.00	0.00	2.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.01	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	1.36	9.53	20.85	0.05	0.78	0.72	0.00	0.02	0.05	0.00	0.00	0.00	9.25
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.01	0.00	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		2.97	**33.80**	**40.10**	**0.10**	**1.88**	**1.73**	**0.01**	**0.07**	**0.09**	**0.00**	**0.00**	**0.00**	**16.55**
		3.34	**36.22**	**46.01**	**0.11**	**2.07**	**1.90**	**0.01**	**0.08**	**0.10**	**0.00**	**0.00**	**0.00**	**18.63**

Table L1-745. Supplemental Fish Passage East, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	1	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	1	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Headworks Structure Operating Equipment															
14	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
15	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-745. Supplemental Fish Passage

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.52
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.14	2.63	1.62	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.17
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.03	0.01	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.63	**72.87**	**44.06**	**0.16**	**2.19**	**2.02**	**0.00**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**6.50**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.03	0.01	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.53**
Headworks Structure Operating Equipment														
14	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
15	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.55	**135.20**	**76.52**	**0.28**	**3.92**	**3.61**	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**13.32**

Table L1-746. Supplemental Fish Passage West, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	1	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	1	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Subtotal
Headworks Structure Operating Equipment															
14	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
15	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-746. Supplemental Fish Passage

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.52
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.14	2.63	1.62	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.17
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.03	0.01	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.63	**72.87**	**44.06**	**0.16**	**2.19**	**2.02**	**0.00**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**6.50**
Headworks Structure														
10	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.03	0.01	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
13	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.53**
Headworks Structure Operating Equipment														
14	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
15	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.55	**135.20**	**76.52**	**0.28**	**3.92**	**3.61**	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**13.32**

Table L1-747. Agricultural Crossing 1, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	1	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Agricultural Channel and Intake															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	1	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Pipe Flush	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Agricultural Channel and Intake Subtotal
Rail Car Bridge															
8	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Rail Car Bridge Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
10	Rail Car Bridge Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Rail Car Bridge Subtotal
															Grand Total

Table L1-747. Agricultural Cross

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.52
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Agricultural Channel and Intake														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.14	2.63	1.62	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.17
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Pipe Flush	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.03	0.01	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		2.72	**66.51**	**30.16**	**0.13**	**1.67**	**1.54**	**0.00**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**5.27**
Rail Car Bridge														
8	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Rail Car Bridge Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
10	Rail Car Bridge Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		0.57	**5.85**	**4.82**	**0.01**	**0.45**	**0.41**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.44**
		3.66	**74.78**	**40.89**	**0.15**	**2.30**	**2.12**	**0.00**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**7.22**

Table L1-748. Northern Water Control Structure, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	33	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	9	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	17	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	5	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	2	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	13	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	2	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Berm/Levee															
10	Berm/Levee Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	3	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Berm/Levee Subtotal
Water Control Structure and Culvert															
11	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Inflatable Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
14	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Water Control Structure and Culvert Subtotal
Buildings															
15	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Water Control Structure Operating Equipment															
16	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
17	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Water Control Structure Operating Equipment Subtotal
															Grand Total

Table L1-748. Northern Water Control Struc

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.01	0.04	0.10	0.00	0.00	0.00	17.11
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.01**	**0.04**	**0.10**	**0.00**	**0.00**	**0.00**	**17.11**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.02	0.02	0.00	0.00	0.00	2.88
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.14	2.63	1.62	0.00	0.11	0.10	0.00	0.02	0.01	0.00	0.00	0.00	2.81
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.13	0.05	0.00	0.00	0.00	20.47
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.00	0.01	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.02	0.05	0.00	0.00	0.00	8.02
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.01	0.00	0.00	0.00	0.00	0.82
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.63	**72.87**	**44.06**	**0.16**	**2.19**	**2.02**	**0.01**	**0.21**	**0.14**	**0.00**	**0.01**	**0.01**	**36.52**
Berm/Levee														
10	Berm/Levee Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.01	0.00	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.19	**5.34**	**2.16**	**0.01**	**0.10**	**0.10**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**
Water Control Structure and Culvert														
11	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.03	0.01	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Inflatable Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
14	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.53**
Buildings														
15	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Water Control Structure Operating Equipment														
16	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
17	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.74	**140.53**	**78.68**	**0.29**	**4.03**	**3.71**	**0.02**	**0.29**	**0.26**	**0.00**	**0.01**	**0.01**	**61.16**

Table L1-749. Southern Water Control Structure, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	29	0.1131	0.7344	1.7907	0.0039	0.0567	0.0522	346.6688	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	22	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	43	0.1421	2.6600	1.6432	0.0043	0.1137	0.1046	369.4011	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	8	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	6	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	56	0.1214	0.8494	1.8584	0.0041	0.0699	0.0643	363.7181	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	4	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Main Channel and Intake Shelf Subtotal
Berm/Levee															
10	Berm/Levee Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	6	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Berm/Levee Subtotal
Water Control Structure and Culvert															
11	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.2384	2.5463	2.4260	0.0043	0.1997	0.1837	363.7180	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
12	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0683	1.9156	0.7766	0.0036	0.0377	0.0347	323.9363	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
13	Inflatable Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
14	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Water Control Structure and Culvert Subtotal
Buildings															
15	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			6.9998	34.6908	155.9699	0.2281	1.8973	1.7455	36496.5301	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Buildings Subtotal
Water Control Structure Operating Equipment															
16	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
17	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.4797	12.8680	1.6515	0.0474	0.8623	0.7933	8716.7490	g/hr
															Water Control Structure Operating Equipment Subtotal
															Grand Total

Table L1-749. Southern Water Control Struc

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.37	2.42	5.91	0.01	0.19	0.17	0.01	0.04	0.09	0.00	0.00	0.00	15.04
		0.37	**2.42**	**5.91**	**0.01**	**0.19**	**0.17**	**0.01**	**0.04**	**0.09**	**0.00**	**0.00**	**0.00**	**15.04**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.01	0.05	0.05	0.00	0.00	0.00	7.04
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.14	2.63	1.62	0.00	0.11	0.10	0.00	0.06	0.03	0.00	0.00	0.00	7.12
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.01	0.21	0.09	0.00	0.00	0.00	32.76
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.00	0.01	0.02	0.00	0.00	0.00	3.70
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.45	3.18	6.95	0.02	0.26	0.24	0.01	0.09	0.19	0.00	0.01	0.01	34.54
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.01	0.00	0.00	0.00	0.00	1.64
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		3.63	**72.87**	**44.06**	**0.16**	**2.19**	**2.02**	**0.03**	**0.43**	**0.39**	**0.00**	**0.02**	**0.02**	**87.08**
Berm/Levee														
10	Berm/Levee Repairs	0.19	5.34	2.16	0.01	0.10	0.10	0.00	0.02	0.01	0.00	0.00	0.00	2.46
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.19	**5.34**	**2.16**	**0.01**	**0.10**	**0.10**	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**2.46**
Water Control Structure and Culvert														
11	Debris Removal	0.46	4.94	4.71	0.01	0.39	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Sediment Removal (Wet conditions)	1.90	53.38	21.64	0.10	1.05	0.97	0.00	0.03	0.01	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Inflatable Gates Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
14	Gates and Concrete Structure Inspection	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.42
		2.47	**59.23**	**26.46**	**0.11**	**1.50**	**1.38**	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.53**
Buildings														
15	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Water Control Structure Operating Equipment														
16	Mechanical Hydraulic Equipment Upkeep	0.05	0.45	0.06	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
17	Test Operate Gates	0.03	0.23	0.03	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.08	**0.68**	**0.09**	**0.00**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.77**
		6.74	**140.53**	**78.68**	**0.29**	**4.03**	**3.71**	**0.04**	**0.52**	**0.50**	**0.00**	**0.02**	**0.02**	**110.87**

Table L1-750. Mitigated Maximum Daily Operational Emissions for Alternative 1

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	2	128	10	0	0	0	Yolo
Supplemental Fish Passage West	2	128	10	0	0	0	Sutter
Downstream Reach	1	34	5	0	0	0	Yolo
Agricultural Crossing 1	1	71	6	0	0	0	Yolo
Total Emissions for Peak Day	6	361	32	1	1	1	
Maximum Daily Operational Emissions in Yolo County	**4**	**233**	**22**	**1**	**1**	**1**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**2**	**128**	**10**	**0**	**0**	**0**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Table L1-751. Mitigated Maximum Daily Operational Emissions for Alternative 2

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	2	128	10	0	0	0	Yolo
Supplemental Fish Passage West	2	128	10	0	0	0	Sutter
Downstream Reach	1	34	5	0	0	0	Yolo
Agricultural Crossing 1	1	71	6	0	0	0	Yolo
Total Emissions for Peak Day	6	361	32	1	1	1	
Maximum Daily Operational Emissions in Yolo County	**4**	**233**	**22**	**1**	**1**	**1**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**2**	**128**	**10**	**0**	**0**	**0**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Table L1-752. Mitigated Maximum Daily Operational Emissions for Alternative 3

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	2	131	11	0	0	0	Both
Supplemental Fish Passage East	2	128	10	0	0	0	Yolo
Downstream Reach	1	34	5	0	0	0	Yolo
Agricultural Crossing 1	1	71	6	0	0	0	Yolo
Total Emissions for Peak Day	6	364	32	1	1	1	
Maximum Daily Operational Emissions in Yolo County	**6**	**364**	**32**	**1**	**1**	**1**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**2**	**131**	**11**	**0**	**0**	**0**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-753. Mitigated Maximum Daily Operational Emissions for Alternative 4

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	2	131	11	0	0	0	Both
Supplemental Fish Passage East	2	128	10	0	0	0	Yolo
Downstream Reach	1	34	5	0	0	0	Yolo
Agricultural Crossing 1	1	71	6	0	0	0	Yolo
Northern Water Control Structure Improvements	2	133	10	0	0	0	Yolo
Southern Water Control Structure Improvements	2	133	10	0	0	0	Yolo
Total Emissions for Peak Day	10	630	53	1	2	2	
Maximum Daily Operational Emissions in Yolo County	**10**	**630**	**53**	**1**	**2**	**2**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**2**	**131**	**11**	**0**	**0**	**0**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-754. Mitigated Maximum Daily Operational Emissions for Alternative 5

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	2	169	18	0	0	0	Yolo
Supplemental Fish Passage West	2	128	10	0	0	0	Sutter
Agricultural Crossing 1	1	71	6	0	0	0	Yolo
Total Emissions for Peak Day	6	369	35	1	1	1	
Maximum Daily Operational Emissions in Yolo County	**4**	**241**	**24**	**1**	**1**	**1**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	No	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**2**	**128**	**10**	**0**	**0**	**0**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Table L1-755. Mitigated Maximum Daily Operational Emissions for Alternative 6

Component	Maximum Daily Operational Emissions (lbs/day)						County
	ROG	CO	NOx	SO2	PM10	PM2.5	
Intake Channel, Headworks, and Outlet Channel	3	187	14	0	1	0	Both
Supplemental Fish Passage East	2	128	10	0	0	0	Yolo
Downstream Reach	1	34	5	0	0	0	Yolo
Agricultural Crossing 1	1	71	6	0	0	0	Yolo
Total Emissions for Peak Day	7	420	36	1	1	1	
Maximum Daily Operational Emissions in Yolo County	**7**	**420**	**36**	**1**	**1**	**1**	
Yolo-Solano AQMD Significance Threshold	25	n/a	25	n/a	80	n/a	
Emissions Greater than YSAQMD Threshold?	No	n/a	Yes	n/a	No	n/a	
Maximum Daily Operational Emissions in Sutter County	**3**	**187**	**14**	**0**	**1**	**0**	
Feather River AQMD Significance Threshold	n/a	n/a	n/a	n/a	80	n/a	
Emissions Greater than FRAQMD Threshold?	n/a	n/a	n/a	n/a	No	n/a	

Note: Totals may not add exactly because of rounding.

Construction of the intake channel, headworks, and outlet channel would be located in both counties. To provide a worst-case estimate of emissions by county, 100% of these emissions were added to each county total.

Table L1-756. Alternative 1 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	O&M Road Regrading	12' Blade Grader	Graders	187	1	1	3	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	15	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	30	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	60	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	2	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	14	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	6	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	3	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-756. Alternative 1 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.56
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.56**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.03	0.01	0.00	0.00	0.00	4.80
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.04	3.31	0.59	0.01	0.00	0.00	0.00	0.05	0.01	0.00	0.00	0.00	7.29
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.02	1.53	0.09	0.00	0.00	0.00	245.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	8.64
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	2.46
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.01	**69.01**	**5.71**	**0.16**	**0.17**	**0.16**	**0.02**	**1.65**	**0.11**	**0.00**	**0.00**	**0.00**	**270.37**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.08	0.00	0.00	0.00	0.00	12.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**14.35**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
16	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		1.97	**127.94**	**10.19**	**0.29**	**0.39**	**0.36**	**0.02**	**1.73**	**0.11**	**0.00**	**0.00**	**0.00**	**287.03**

Table L1-757. Alternative 2 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	8	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	29	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	57	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	60	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	3	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	30	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	15	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	3	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-757. Alternative 2 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.15
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.15**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.06	0.02	0.00	0.00	0.00	9.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.04	3.31	0.59	0.01	0.00	0.00	0.00	0.09	0.02	0.00	0.00	0.00	13.86
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.02	1.53	0.09	0.00	0.00	0.00	245.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.85
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.04	0.01	0.00	0.00	0.00	18.51
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.04	0.00	0.00	0.00	0.00	6.14
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.01	**69.01**	**5.71**	**0.16**	**0.17**	**0.16**	**0.02**	**1.77**	**0.13**	**0.00**	**0.00**	**0.00**	**295.58**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.08	0.00	0.00	0.00	0.00	12.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**14.35**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
16	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		1.97	**127.94**	**10.19**	**0.29**	**0.39**	**0.36**	**0.03**	**1.86**	**0.14**	**0.00**	**0.00**	**0.00**	**314.84**

Table L1-758. Alternative 3 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	10	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	35	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	35	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	60	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	5	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	40	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	24	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	3	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-758. Alternative 3 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.19
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.19**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.08	0.02	0.00	0.00	0.00	11.20
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.07	6.63	1.17	0.01	0.01	0.01	0.00	0.12	0.02	0.00	0.00	0.00	17.02
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.02	1.53	0.09	0.00	0.00	0.00	245.67
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.05	0.01	0.00	0.00	0.00	24.68
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.06	0.00	0.00	0.00	0.00	9.83
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.05	**72.32**	**6.30**	**0.16**	**0.18**	**0.16**	**0.02**	**1.84**	**0.14**	**0.00**	**0.00**	**0.00**	**311.75**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.08	0.00	0.00	0.00	0.00	12.28
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**14.35**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
16	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		2.01	**131.25**	**10.78**	**0.29**	**0.40**	**0.36**	**0.03**	**1.93**	**0.15**	**0.00**	**0.00**	**0.00**	**332.05**

Table L1-759. Alternative 4 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	10	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	35	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	35	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	30	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	5	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	40	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	24	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	2	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-759. Alternative 4 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.19
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.19**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.08	0.02	0.00	0.00	0.00	11.20
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.07	6.63	1.17	0.01	0.01	0.01	0.00	0.12	0.02	0.00	0.00	0.00	17.02
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.01	0.76	0.04	0.00	0.00	0.00	122.84
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.05	0.01	0.00	0.00	0.00	24.68
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.06	0.00	0.00	0.00	0.00	9.83
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.05	**72.32**	**6.30**	**0.16**	**0.18**	**0.16**	**0.01**	**1.08**	**0.10**	**0.00**	**0.00**	**0.00**	**188.92**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.05	0.00	0.00	0.00	0.00	8.19
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**10.25**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
16	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		2.01	**131.25**	**10.78**	**0.29**	**0.40**	**0.36**	**0.02**	**1.15**	**0.10**	**0.00**	**0.00**	**0.00**	**205.12**

Table L1-760. Alternative 5 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	48	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	4	56	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	8	56	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	30	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	5	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	40	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	2	60	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	19	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	2	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-760. Alternative 5 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.05	0.01	0.00	0.00	0.00	24.89
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**24.89**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.26	17.60	4.55	0.03	0.03	0.03	0.01	0.49	0.13	0.00	0.00	0.00	71.70
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.30	26.51	4.69	0.05	0.04	0.03	0.01	0.74	0.13	0.00	0.00	0.00	108.90
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.01	0.76	0.04	0.00	0.00	0.00	122.84
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.05	0.01	0.00	0.00	0.00	24.68
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.13	10.18	0.57	0.02	0.02	0.02	0.00	0.31	0.02	0.00	0.00	0.00	49.13
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.53	**110.49**	**13.52**	**0.24**	**0.24**	**0.22**	**0.03**	**2.36**	**0.33**	**0.00**	**0.00**	**0.00**	**380.60**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.04	0.01	0.00	0.00	0.00	6.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.05	0.00	0.00	0.00	0.00	8.19
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.09**	**0.01**	**0.00**	**0.00**	**0.00**	**15.37**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
16	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		2.49	**169.42**	**17.99**	**0.37**	**0.46**	**0.42**	**0.03**	**2.51**	**0.35**	**0.01**	**0.01**	**0.00**	**421.63**

Table L1-761. Alternative 6 - Main Channel and Headworks Operation and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	10	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	48	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	48	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	20	60	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	13	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	3	43	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	51	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	3	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	6	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Buildings															
14	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Headworks Structure Operating Equipment															
15	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
16	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-761. Alternative 6 - Main Channel a

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.19
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.19**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.11	0.03	0.00	0.00	0.00	15.36
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.07	6.63	1.17	0.01	0.01	0.01	0.00	0.16	0.03	0.00	0.00	0.00	23.33
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	1.29	101.76	5.67	0.20	0.21	0.19	0.04	3.05	0.17	0.01	0.01	0.01	491.34
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	8.02
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.27	7.67	1.27	0.05	0.04	0.04	0.01	0.16	0.03	0.00	0.00	0.00	79.58
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.13	0.01	0.00	0.00	0.00	20.88
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.87	**128.31**	**9.98**	**0.30**	**0.31**	**0.28**	**0.05**	**3.63**	**0.26**	**0.01**	**0.01**	**0.01**	**638.80**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.96
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.15	0.01	0.00	0.00	0.00	24.57
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.16**	**0.01**	**0.00**	**0.00**	**0.00**	**26.63**
Buildings														
14	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Headworks Structure Operating Equipment														
15	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
16	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		2.83	**187.24**	**14.46**	**0.42**	**0.53**	**0.49**	**0.05**	**3.80**	**0.28**	**0.01**	**0.01**	**0.01**	**671.38**

Table L1-762. Downstream Reach, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	4	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	7	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	2	7	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	1	0	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	2	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	3	5	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	3	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
															Grand Total

Table L1-762. Downstream Reach, Ope

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	2.07
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	2.24
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.07	6.63	1.17	0.01	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	3.40
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.27	7.67	1.27	0.05	0.04	0.04	0.00	0.02	0.00	0.00	0.00	0.00	9.25
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		0.65	**31.64**	**4.59**	**0.10**	**0.11**	**0.10**	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**17.63**
		0.73	**33.76**	**4.94**	**0.12**	**0.12**	**0.11**	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**19.71**

Table L1-763. Supplemental Fish Passage East, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	1	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	1	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Headworks Structure Operating Equipment															
14	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
15	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-763. Supplemental Fish Passage

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.52
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.04	3.31	0.59	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.03	0.00	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.01	**69.01**	**5.71**	**0.16**	**0.17**	**0.16**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**6.58**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.03	0.00	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**5.52**
Headworks Structure Operating Equipment														
14	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
15	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		1.97	**127.94**	**10.19**	**0.29**	**0.39**	**0.36**	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**13.37**

Table L1-764. Supplemental Fish Passage West, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	1	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	1	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	1	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Headworks Structure															
10	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
11	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Hinged Bottom Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Subtotal
Headworks Structure Operating Equipment															
14	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
15	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Headworks Structure Operating Equipment Subtotal
															Grand Total

Table L1-764. Supplemental Fish Passage

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.52
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.04	3.31	0.59	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.03	0.00	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.62
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.01	**69.01**	**5.71**	**0.16**	**0.17**	**0.16**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**6.58**
Headworks Structure														
10	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.03	0.00	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Hinged Bottom Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
13	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**5.52**
Headworks Structure Operating Equipment														
14	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
15	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		1.97	**127.94**	**10.19**	**0.29**	**0.39**	**0.36**	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**13.37**

Table L1-765. Agricultural Crossing 1, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	1	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Agricultural Channel and Intake															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	1	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Pipe Flush	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Agricultural Channel and Intake Subtotal
Rail Car Bridge															
8	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Rail Car Bridge Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
10	Rail Car Bridge Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Rail Car Bridge Subtotal
															Grand Total

Table L1-765. Agricultural Cross

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.52
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.52**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Agricultural Channel and Intake														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.04	3.31	0.59	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Pipe Flush	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.03	0.00	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		0.84	**63.90**	**4.87**	**0.13**	**0.14**	**0.13**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**5.34**
Rail Car Bridge														
8	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Rail Car Bridge Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
10	Rail Car Bridge Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.16	**5.28**	**1.23**	**0.01**	**0.06**	**0.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.42**
		1.08	**71.29**	**6.44**	**0.15**	**0.22**	**0.20**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**7.29**

Table L1-766. Northern Water Control Structure, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	33	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	9	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	17	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	5	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	2	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	13	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	2	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Berm/Levee															
10	Berm/Levee Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	3	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Berm/Levee Subtotal
Water Control Structure and Culvert															
11	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Inflatable Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
14	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Water Control Structure and Culvert Subtotal
Buildings															
15	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Water Control Structure Operating Equipment															
16	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
17	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Water Control Structure Operating Equipment Subtotal
															Grand Total

Table L1-766. Northern Water Control Struc

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.03	0.01	0.00	0.00	0.00	17.11
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**17.11**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.02	0.01	0.00	0.00	0.00	2.88
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.04	3.31	0.59	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	4.13
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.13	0.01	0.00	0.00	0.00	20.47
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	8.02
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.82
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.01	**69.01**	**5.71**	**0.16**	**0.17**	**0.16**	**0.00**	**0.20**	**0.02**	**0.00**	**0.00**	**0.00**	**37.83**
Berm/Levee														
10	Berm/Levee Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.23
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.06	**5.09**	**0.28**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**
Water Control Structure and Culvert														
11	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.03	0.00	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Inflatable Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
14	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**5.52**
Buildings														
15	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Water Control Structure Operating Equipment														
16	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
17	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		2.04	**133.03**	**10.47**	**0.30**	**0.40**	**0.37**	**0.01**	**0.27**	**0.03**	**0.00**	**0.00**	**0.00**	**62.45**

Table L1-767. Southern Water Control Structure, Operations and Maintenance

								Emission Factors							
Item #	WBS Description	Equipment	OFFROAD Name	Size (hp)	Quantity	Number of Crews	Estimated Duration, Days	ROG	CO	NOx	SO2	PM10	PM2.5	CO2	Units
O&M Road															
1	Levee O&M Road Regrading	12' Blade Grader	Graders	187	1	1	29	0.0246	0.6411	0.1067	0.0039	0.0038	0.0035	346.6654	g/hp-hr
															O&M Road Subtotal
Environmental Permits and Mitigation															
2	Permits and mitigation					-	-								
Main Channel and Intake Shelf															
3	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	22	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
4	Vegetation Removal	56 HP Tractor Rotary Mower	Off-Highway Tractors	56	1	1	43	0.0375	3.3553	0.5938	0.0064	0.0048	0.0044	542.5718	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
5	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	8	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
6	Rock Replacement (Minor Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	6	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
7	Rock Replacement (Major Repair)	17 NT Crane Crawler	Crawler Tractors	212	1	1	56	0.0236	0.6834	0.1131	0.0041	0.0040	0.0036	363.7264	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	2			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
8	Channel Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	4	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
9	Channel Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	4	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Main Channel and Intake Shelf Subtotal
Berm/Levee															
10	Berm/Levee Repairs	0.75 CY Hydraulic Excavator	Excavators	158	1	1	6	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Berm/Levee Subtotal
Water Control Structure and Culvert															
11	Debris Removal	1.5 CY Front End Loader Crawler	Crawler Tractors	110	1	1	1	0.0337	2.2674	0.5867	0.0043	0.0045	0.0041	363.7340	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	1			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
12	Sediment Removal (Wet conditions)	0.75 CY Hydraulic Excavator	Excavators	158	1	10	1	0.0231	1.8258	0.1018	0.0036	0.0037	0.0034	323.9347	g/hp-hr
		16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	3			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
13	Inflatable Gates Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
14	Gates and Concrete Structure Inspection	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	3	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Water Control Structure and Culvert Subtotal
Buildings															
15	Equipment Building (Major Repair)	16 CY 3 Axle Dump Truck	n/a - onroad	HHDT	1			5.1968	33.0182	131.5280	0.2206	1.5952	1.4676	34432.0285	g/hr
		Pickup Truck Conventional	n/a - onroad	LDT2	2			1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Buildings Subtotal
Water Control Structure Operating Equipment															
16	Mechanical Hydraulic Equipment Upkeep	Pickup Truck Conventional	n/a - onroad	LDT2	2	1	5	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
17	Test Operate Gates	Pickup Truck Conventional	n/a - onroad	LDT2	1	1	1	1.3847	12.4711	1.2324	0.0468	0.7714	0.7097	8626.3756	g/hr
															Water Control Structure Operating Equipment Subtotal
															Grand Total

Table L1-767. Southern Water Control Stru

		Daily Emissions, lbs/day						Annual Emissions, tons per year						
Item #	WBS Description	ROG	CO	NOx	SO2	PM10	PM2.5	ROG	CO	NOx	SO2	PM10	PM2.5	CO2 (MT/year)
O&M Road														
1	Levee O&M Road Regrading	0.08	2.11	0.35	0.01	0.01	0.01	0.00	0.03	0.01	0.00	0.00	0.00	15.04
		0.08	**2.11**	**0.35**	**0.01**	**0.01**	**0.01**	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**15.04**
Environmental Permits and Mitigation														
2	Permits and mitigation													
Main Channel and Intake Shelf														
3	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.05	0.01	0.00	0.00	0.00	7.04
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Vegetation Removal	0.04	3.31	0.59	0.01	0.00	0.00	0.00	0.07	0.01	0.00	0.00	0.00	10.45
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.20	0.01	0.00	0.00	0.00	32.76
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Rock Replacement (Minor Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.70
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Rock Replacement (Major Repair)	0.09	2.56	0.42	0.02	0.01	0.01	0.00	0.07	0.01	0.00	0.00	0.00	34.55
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Channel Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.64
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Channel Inspection	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.28
		1.01	**69.01**	**5.71**	**0.16**	**0.17**	**0.16**	**0.01**	**0.41**	**0.05**	**0.00**	**0.00**	**0.00**	**90.41**
Berm/Levee														
10	Berm/Levee Repairs	0.06	5.09	0.28	0.01	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.00	2.46
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.06	**5.09**	**0.28**	**0.01**	**0.01**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.46**
Water Control Structure and Culvert														
11	Debris Removal	0.07	4.40	1.14	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Sediment Removal (Wet conditions)	0.64	50.88	2.84	0.10	0.10	0.10	0.00	0.03	0.00	0.00	0.00	0.00	4.09
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Inflatable Gates Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
14	Gates and Concrete Structure Inspection	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.41
		0.81	**56.16**	**4.06**	**0.11**	**0.17**	**0.15**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**5.52**
Buildings														
15	Equipment Building (Major Repair)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Water Control Structure Operating Equipment														
16	Mechanical Hydraulic Equipment Upkeep	0.05	0.44	0.04	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.69
17	Test Operate Gates	0.02	0.22	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
		0.07	**0.66**	**0.07**	**0.00**	**0.04**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.76**
		2.04	**133.03**	**10.47**	**0.30**	**0.40**	**0.37**	**0.01**	**0.49**	**0.06**	**0.00**	**0.00**	**0.00**	**114.19**