Appendix F
Air Quality and Greenhouse Gas Report

Newport Harbor Dredging (CEQA Projects) - Air Pollutant Emission Inventory - CO

Year 2022

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	CO Fac	Jul 2022 1st	Jul 2022 2nd	Jul 2022 3rd	Jul 2022 4th	Aug 2022 1st	Aug 2022 2nd	Aug 2022 3rd	Aug 2022 4th	Sep 2022 1st	Sep 2022 2nd	Sep 2022 3rd	Sep 2022 4th	Oct 2022 1st	Oct 2022 2nd	Oct 2022 3rd	Oct 2022 4th	Nov 2022 1st	Nov 2022 2nd	Nov 2022 3rd	Nov 2022 4th
Phase 1: Excavate CAD																										
Subphase 1a: Excavate CAD																										
Crew/Work Boat	2	100	5	59	0.38	3.73			3.1																	
Mechanical Dredger	1	2500	10	59	0.29	1.02			16.2																	
Split Hull Barge	2	350	3	59	0.38	3.73			6.6																	
Tugboat	1	2000	8	59	0.31	3.73			40.8																	
Phase 2: Dredge Unsuitable Material and Place in CAD																										
Subphase 2a: Dredge Unsuitable Material and Place in CAD																										
Mechanical Dredger	1	2500	10	13	0.29	1.02														16.2						
Tugboat	1	2000	5	13	0.31	3.73														25.5						
Crew/Work Boat	2	100	5	13	0.38	3.73														3.1						
Split Hull Barge	2	350	3	13	0.38	3.73														6.6						
Phase 3: Dredge Newport Channel 3 for Interim Cover																										
Subphase 3a: Dredge Newport Channel 3 for Interim Cap																										
Mechanical Dredger	1	2500	10	2	0.29	1.02																		16.2		
Tugboat	1	2000	5	2	0.31	3.73																		25.5		
Crew/Work Boat	2	100	5	2	0.38	3.73																		3.1		
Split Hull Barge	2	350	3	2	0.38	3.73																		6.6		
Phase 4: Dredge Non-Federal Channel Material																										
Subphase 4a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	1.02																				
Tugboat	1	2000	5	15	0.31	3.73																				
Crew/Work Boat	2	100	5	15	0.38	3.73																				
Split Hull Barge	2	350	3	15	0.38	3.73																				
Subphase 4b: Dredging Window																										
Crew/Work Boat	2	100	5	25	0.38	3.73																				
Mechanical Dredger	1	1400	10	25	0.29	1.02																				
Split Hull Barge	2	350	3	25	0.38	3.73																				
Tugboat	1	2000	5	25	0.31	3.73																				
Phase 4c: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	3.73																				
Mechanical Dredger	1	1400	2	15	0.29	1.02																				
Split Hull Barge	2	350	3	15	0.38	3.73																				
Tugboat	1	2000	2	15	0.31	3.73																				
Phase 5: Dredge Channel 3 and Place Final CAP																										
Subphase 5a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	1.02																				
Tugboat	1	2000	5	15	0.31	3.73																				
Crew/Work Boat	2	100	5	15	0.38	3.73																				
Split Hull Barge	2	350	3	15	0.38	3.73																				
Subphase 5b: Dredge Channel 3 and Place in CAD for Final Cap																										
Mechanical Dredger	1	1400	10	17	0.29	1.02																				
Tugboat	1	2000	5	17	0.31	3.73																				
Crew/Work Boat	2	100	5	17	0.38	3.73																				
Split Hull Barge	2	350	3	17	0.38	3.73																				
Subphase 5c: Dredge Remaining Material in Newport Channel 3																										
Mechanical Dredger	1	1400	10	18	0.29	1.02																				
Tugboat	1	2000	5	18	0.31	3.73																				
Crew/Work Boat	2	100	5	18	0.38	3.73																				
Split Hull Barge	2	350	3	18	0.38	3.73																				
Phase 5d: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	3.73																				
Mechanical Dredger	1	1400	2	15	0.29	1.02																				
Split Hull Barge	2	350	2	15	0.38	3.73																				
Tugboat	1	2000	2	15	0.31	3.73																				
CO Daily Average Emission (lbs/workday)														66.7						51.4				51.4		
CO Annual Emission (tons/year)																										

Year 2022: Total CO **2.35 tons**

Dec 2022				Jun 2024				Jul 2024				Aug 2024				Sep 2024				Oct 2024				Nov 2024				Dec 2024				Jan	
1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
																											1.8						
																											25.5						
																											3.1						
																											6.6						
						1.8																											
						25.5																											
						3.1																											
						6.6																											
																																	9.1
																																	25.5
																																	3.1
																																	6.6
						37.0											44.3										81.3						
				Year 2024: Total CO				0.81 tons																								Year 2025: Total C	

2025		Feb		2025		Mar		2025		Apr		2025		May		2025		Jun		2025		Jul		2025		Aug		2025		Sept		2025	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
						3.1																											
						9.1																											
						6.6																											
						25.5																											
																	3.1																
																	1.8																
																	6.6																
																	10.2																
																										9.1							
																										25.5							
																										3.1							
																										6.6							
																													3.1				
																													1.8				
																													4.4				
																													10.2				
						88.5												66.0				44.3				44.3			19.5				
O		1.2																															

Newport Harbor Dredging (CEQA Projects) - Air Pollutant Emission Inventory - CO2

Year 2022

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	CO2 Fac	Jul 2022 1st	Jul 2022 2nd	Jul 2022 3rd	Jul 2022 4th	Aug 2022 1st	Aug 2022 2nd	Aug 2022 3rd	Aug 2022 4th	Sep 2022 1st	Sep 2022 2nd	Sep 2022 3rd	Sep 2022 4th	Oct 2022 1st	Oct 2022 2nd	Oct 2022 3rd	Oct 2022 4th	Nov 2022 1st	Nov 2022 2nd	Nov 2022 3rd	Nov 2022 4th
Phase 1: Excavate CAD																										
Subphase 1a: Excavate CAD																										
Crew/Work Boat	2	100	5	59	0.38	486.00			407.2																	
Mechanical Dredger	1	2500	10	59	0.29	472.05			7546.4																	
Split Hull Barge	2	350	3	59	0.38	486.00			855.2																	
Tugboat	1	2000	8	59	0.31	486.00			5315.3																	
Phase 2: Dredge Unsuitable Material and Place in CAD																										
Subphase 2a: Dredge Unsuitable Material and Place in CAD																										
Mechanical Dredger	1	2500	10	13	0.29	472.05														7546.4						
Tugboat	1	2000	5	13	0.31	486.00														3322.1						
Crew/Work Boat	2	100	5	13	0.38	486.00														407.2						
Split Hull Barge	2	350	3	13	0.38	486.00														855.2						
Phase 3: Dredge Newport Channel 3 for Interim Cover																										
Subphase 3a: Dredge Newport Channel 3 for Interim Cap																										
Mechanical Dredger	1	2500	10	2	0.29	472.05																		7546.4		
Tugboat	1	2000	5	2	0.31	486.00																		3322.1		
Crew/Work Boat	2	100	5	2	0.38	486.00																		407.2		
Split Hull Barge	2	350	3	2	0.38	486.00																		855.2		
Phase 4: Dredge Non-Federal Channel Material																										
Subphase 4a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	472.05																				
Tugboat	1	2000	5	15	0.31	486.00																				
Crew/Work Boat	2	100	5	15	0.38	486.00																				
Split Hull Barge	2	350	3	15	0.38	486.00																				
Subphase 4b: Dredging Window																										
Crew/Work Boat	2	100	5	25	0.38	486.00																				
Mechanical Dredger	1	1400	10	25	0.29	472.05																				
Split Hull Barge	2	350	3	25	0.38	486.00																				
Tugboat	1	2000	5	25	0.31	486.00																				
Phase 4c: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	486.00																				
Mechanical Dredger	1	1400	2	15	0.29	472.05																				
Split Hull Barge	2	350	3	15	0.38	486.00																				
Tugboat	1	2000	2	15	0.31	486.00																				
Phase 5: Dredge Channel 3 and Place Final CAP																										
Subphase 5a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	472.05																				
Tugboat	1	2000	5	15	0.31	486.00																				
Crew/Work Boat	2	100	5	15	0.38	486.00																				
Split Hull Barge	2	350	3	15	0.38	486.00																				
Subphase 5b: Dredge Channel 3 and Place in CAD for Final Cap																										
Mechanical Dredger	1	1400	10	17	0.29	472.05																				
Tugboat	1	2000	5	17	0.31	486.00																				
Crew/Work Boat	2	100	5	17	0.38	486.00																				
Split Hull Barge	2	350	3	17	0.38	486.00																				
Subphase 5c: Dredge Remaining Material in Newport Channel 3																										
Mechanical Dredger	1	1400	10	18	0.29	472.05																				
Tugboat	1	2000	5	18	0.31	486.00																				
Crew/Work Boat	2	100	5	18	0.38	486.00																				
Split Hull Barge	2	350	3	18	0.38	486.00																				
Phase 5d: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	486.00																				
Mechanical Dredger	1	1400	2	15	0.29	472.05																				
Split Hull Barge	2	350	2	15	0.38	486.00																				
Tugboat	1	2000	2	15	0.31	486.00																				
CO2 Daily Average Emission (lbs/workday)									14124.0											12130.8				12130.8		
CO2 Annual Emission (tons/year)									Year 2022: Total CO2											507.6 tons						
																				460.4 MT						

Dec		2022		Jun		2024		Jul		2024		Aug		2024		Sep		2024		Oct		2024		Nov		2024		Dec		2024		Jan	
1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
																											845.2						
																											3322.1						
																											407.2						
																											855.2						
						845.2																											
						3322.1																											
						407.2																											
						855.2																											
																																	4226.0
																																	3322.1
																																	407.2
																																	855.2
						5429.6											8810.4										14240.0						
				Year 2024: Total CO2				131.7 tons																								Year 2025: Total C	
								119.5 MT																									

2025		Feb		2025		Mar		2025		Apr		2025		May		2025		Jun		2025		Jul		2025		Aug		2025		Sept		2025	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
						407.2																											
						4226.0																											
						855.2																											
						3322.1																											
																	407.2																
																	845.2																
																	855.2																
																	1328.8																
																										4226.0							
																										3322.1							
																										407.2							
																										855.2							
																													407.2				
																													845.2				
																													570.1				
																													1328.8				
						17620.8												12246.8				8810.4				8810.4			3151.3				
CO2		223.8																															
		203.0 MT																															

Newport Harbor Dredging (CEQA Projects) - Air Pollutant Emission Inventory - NOx

Year 2022

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	NOx Fac	Jul 2022 1st	Jul 2022 2nd	Jul 2022 3rd	Jul 2022 4th	Aug 2022 1st	Aug 2022 2nd	Aug 2022 3rd	Aug 2022 4th	Sep 2022 1st	Sep 2022 2nd	Sep 2022 3rd	Sep 2022 4th	Oct 2022 1st	Oct 2022 2nd	Oct 2022 3rd	Oct 2022 4th	Nov 2022 1st	Nov 2022 2nd	Nov 2022 3rd	Nov 2022 4th
Phase 1: Excavate CAD									■	■	■	■	■	■	■	■	■	■	■							
Subphase 1a: Excavate CAD																										
Crew/Work Boat	2	100	5	59	0.38	5.50			4.6																	
Mechanical Dredger	1	2500	10	59	0.29	2.39			38.1																	
Split Hull Barge	2	350	3	59	0.38	5.50			9.7																	
Tugboat	1	2000	8	59	0.31	5.50			60.2																	
Phase 2: Dredge Unsuitable Material and Place in CAD																			■	■	■	■	■	■		
Subphase 2a: Dredge Unsuitable Material and Place in CAD																										
Mechanical Dredger	1	2500	10	13	0.29	2.39													38.1							
Tugboat	1	2000	5	13	0.31	5.50													37.6							
Crew/Work Boat	2	100	5	13	0.38	5.50													4.6							
Split Hull Barge	2	350	3	13	0.38	5.50													9.7							
Phase 3: Dredge Newport Channel 3 for Interim Cover																							■	■	■	■
Subphase 3a: Dredge Newport Channel 3 for Interim Cap																										
Mechanical Dredger	1	2500	10	2	0.29	2.39																	38.1			
Tugboat	1	2000	5	2	0.31	5.50																	37.6			
Crew/Work Boat	2	100	5	2	0.38	5.50																	4.6			
Split Hull Barge	2	350	3	2	0.38	5.50																	9.7			
Phase 4: Dredge Non-Federal Channel Material																										
Subphase 4a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	2.39																				
Tugboat	1	2000	5	15	0.31	5.50																				
Crew/Work Boat	2	100	5	15	0.38	5.50																				
Split Hull Barge	2	350	3	15	0.38	5.50																				
Subphase 4b: Dredging Window																										
Crew/Work Boat	2	100	5	25	0.38	5.50																				
Mechanical Dredger	1	1400	10	25	0.29	2.39																				
Split Hull Barge	2	350	3	25	0.38	5.50																				
Tugboat	1	2000	5	25	0.31	5.50																				
Phase 4c: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	5.50																				
Mechanical Dredger	1	1400	2	15	0.29	2.39																				
Split Hull Barge	2	350	3	15	0.38	5.50																				
Tugboat	1	2000	2	15	0.31	5.50																				
Phase 5: Dredge Channel 3 and Place Final CAP																										
Subphase 5a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	2.39																				
Tugboat	1	2000	5	15	0.31	5.50																				
Crew/Work Boat	2	100	5	15	0.38	5.50																				
Split Hull Barge	2	350	3	15	0.38	5.50																				
Subphase 5b: Dredge Channel 3 and Place in CAD for Final Cap																										
Mechanical Dredger	1	1400	10	17	0.29	5.50																				
Tugboat	1	2000	5	17	0.31	2.39																				
Crew/Work Boat	2	100	5	17	0.38	5.50																				
Split Hull Barge	2	350	3	17	0.38	5.50																				
Subphase 5c: Dredge Remaining Material in Newport Channel 3																										
Mechanical Dredger	1	1400	10	18	0.29	5.50																				
Tugboat	1	2000	5	18	0.31	2.39																				
Crew/Work Boat	2	100	5	18	0.38	5.50																				
Split Hull Barge	2	350	3	18	0.38	5.50																				
Phase 5d: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	5.50																				
Mechanical Dredger	1	1400	2	15	0.29	2.39																				
Split Hull Barge	2	350	2	15	0.38	5.50																				
Tugboat	1	2000	2	15	0.31	5.50																				
NOx Daily Average Emission (lbs/workday)									112.6										90.0				90.0			
NOx Annual Emission (tons/year)									**Year 2022: Total NOx**										**4.00 tons**							

Dec 2022				Jun 2024				Jul 2024				Aug 2024				Sep 2024				Oct 2024				Nov 2024				Dec 2024				Jan	
1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
																										4.3							
																										37.6							
																										4.6							
																										9.7							
						4.3																											
						37.6																											
						4.6																											
						9.7																											
																																	49.2
																																	16.3
																																	4.6
																																	9.7
						56.2											79.8									136.0							
				Year 2024: Total NOx					1.3 tons																							Year 2025: Total N	

2025		Feb		2025		Mar		2025		Apr		2025		May		2025		Jun		2025		Jul		2025		Aug		2025		Sept		2025	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
						4.6																											
						21.4																											
						9.7																											
						37.6																											
																	4.6																
																	4.3																
																	9.7																
																	15.0																
																									49.2							
																									16.3							
																									4.6							
																									9.7							
																												4.6				
																												4.3				
																												6.5				
																												15.0				
						153.1												113.4				79.8				79.8			30.4				
Ox		2.0																															

Newport Harbor Dredging (CEQA Projects) - Air Pollutant Emission Inventory - PM10

Year 2022

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	PM10 Fac	Jul 2022 1st	Jul 2022 2nd	Jul 2022 3rd	Jul 2022 4th	Aug 2022 1st	Aug 2022 2nd	Aug 2022 3rd	Aug 2022 4th	Sep 2022 1st	Sep 2022 2nd	Sep 2022 3rd	Sep 2022 4th	Oct 2022 1st	Oct 2022 2nd	Oct 2022 3rd	Oct 2022 4th	Nov 2022 1st	Nov 2022 2nd	Nov 2022 3rd	Nov 2022 4th
Phase 1: Excavate CAD																										
Subphase 1a: Excavate CAD																										
Crew/Work Boat	2	100	5	59	0.38	0.20			0.2																	
Mechanical Dredger	1	2500	10	59	0.29	0.06			1.0																	
Split Hull Barge	2	350	3	59	0.38	0.20			0.4																	
Tugboat	1	2000	8	59	0.31	0.20			2.2																	
Phase 2: Dredge Unsuitable Material and Place in CAD																										
Subphase 2a: Dredge Unsuitable Material and Place in CAD																										
Mechanical Dredger	1	2500	10	13	0.29	0.06															1.0					
Tugboat	1	2000	5	13	0.31	0.20															1.4					
Crew/Work Boat	2	100	5	13	0.38	0.20															0.2					
Split Hull Barge	2	350	3	13	0.38	0.20															0.4					
Phase 3: Dredge Newport Channel 3 for Interim Cover																										
Subphase 3a: Dredge Newport Channel 3 for Interim Cap																										
Mechanical Dredger	1	2500	10	2	0.29	0.06																		1.0		
Tugboat	1	2000	5	2	0.31	0.20																		1.4		
Crew/Work Boat	2	100	5	2	0.38	0.20																		0.2		
Split Hull Barge	2	350	3	2	0.38	0.20																		0.4		
Phase 4: Dredge Non-Federal Channel Material																										
Subphase 4a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Tugboat	1	2000	5	15	0.31	0.20																				
Crew/Work Boat	2	100	5	15	0.38	0.20																				
Split Hull Barge	2	350	3	15	0.38	0.20																				
Subphase 4b: Dredging Window																										
Crew/Work Boat	2	100	5	25	0.38	0.20																				
Mechanical Dredger	1	1400	10	25	0.29	0.06																				
Split Hull Barge	2	350	3	25	0.38	0.20																				
Tugboat	1	2000	5	25	0.31	0.20																				
Phase 4c: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.20																				
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Split Hull Barge	2	350	3	15	0.38	0.20																				
Tugboat	1	2000	2	15	0.31	0.20																				
Phase 5: Dredge Channel 3 and Place Final CAP																										
Subphase 5a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Tugboat	1	2000	5	15	0.31	0.20																				
Crew/Work Boat	2	100	5	15	0.38	0.20																				
Split Hull Barge	2	350	3	15	0.38	0.20																				
Subphase 5b: Dredge Channel 3 and Place in CAD for Final Cap																										
Mechanical Dredger	1	1400	10	17	0.29	0.06																				
Tugboat	1	2000	5	17	0.31	0.20																				
Crew/Work Boat	2	100	5	17	0.38	0.20																				
Split Hull Barge	2	350	3	17	0.38	0.20																				
Subphase 5c: Dredge Remaining Material in Newport Channel 3																										
Mechanical Dredger	1	1400	10	18	0.29	0.06																				
Tugboat	1	2000	5	18	0.31	0.20																				
Crew/Work Boat	2	100	5	18	0.38	0.20																				
Split Hull Barge	2	350	3	18	0.38	0.20																				
Phase 5d: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.20																				
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Split Hull Barge	2	350	2	15	0.38	0.20																				
Tugboat	1	2000	2	15	0.31	0.20																				
PM10 Daily Average Emission (lbs/workday)									3.7												2.9				2.9	
PM10 Annual Emission (tons/year)									Year 2022: Total PM10												0.13 tons					

Dec		2022		Jun		2024		Jul		2024		Aug		2024		Sep		2024		Oct		2024		Nov		2024		Dec		2024		Jan	
1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
																										0.1							
																										1.4							
																										0.2							
																										0.4							
						0.1																											
						1.4																											
						0.2																											
						0.4																											
																																	0.6
																																	1.4
																																	0.2
																																	0.4
						2.0											2.5									4.5							
				Year 2024: Total PM10					0.0 tons																							Year 2025: Total P	

2025		Feb		2025		Mar		2025		Apr		2025		May		2025		Jun		2025		Jul		2025		Aug		2025		Sept		2025	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
						0.2																											
						0.6																											
						0.4																											
						1.4																											
																	0.2																
																	0.1																
																	0.4																
																	0.6																
																										0.6							
																										1.4							
																										0.2							
																										0.4							
																													0.2				
																													0.1				
																													0.2				
																													0.6				
						4.9												3.6				2.5				2.5			1.1				
M10		0.1																															

Newport Harbor Dredging (CEQA Projects) - Air Pollutant Emission Inventory - PM25

Year 2022

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	PM25 Fac	Jul 2022 1st	Jul 2022 2nd	Jul 2022 3rd	Jul 2022 4th	Aug 2022 1st	Aug 2022 2nd	Aug 2022 3rd	Aug 2022 4th	Sep 2022 1st	Sep 2022 2nd	Sep 2022 3rd	Sep 2022 4th	Oct 2022 1st	Oct 2022 2nd	Oct 2022 3rd	Oct 2022 4th	Nov 2022 1st	Nov 2022 2nd	Nov 2022 3rd	Nov 2022 4th
Phase 1: Excavate CAD																										
Subphase 1a: Excavate CAD																										
Crew/Work Boat	2	100	5	59	0.38	0.18			0.2																	
Mechanical Dredger	1	2500	10	59	0.29	0.06			0.9																	
Split Hull Barge	2	350	3	59	0.38	0.18			0.3																	
Tugboat	1	2000	8	59	0.31	0.18			2.0																	
Phase 2: Dredge Unsuitable Material and Place in CAD																										
Subphase 2a: Dredge Unsuitable Material and Place in CAD																										
Mechanical Dredger	1	2500	10	13	0.29	0.06															0.9					
Tugboat	1	2000	5	13	0.31	0.18															1.2					
Crew/Work Boat	2	100	5	13	0.38	0.18															0.2					
Split Hull Barge	2	350	3	13	0.38	0.18															0.3					
Phase 3: Dredge Newport Channel 3 for Interim Cover																										
Subphase 3a: Dredge Newport Channel 3 for Interim Cap																										
Mechanical Dredger	1	2500	10	2	0.29	0.06																		0.9		
Tugboat	1	2000	5	2	0.31	0.18																		1.2		
Crew/Work Boat	2	100	5	2	0.38	0.18																		0.2		
Split Hull Barge	2	350	3	2	0.38	0.18																		0.3		
Phase 4: Dredge Non-Federal Channel Material																										
Subphase 4a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Tugboat	1	2000	5	15	0.31	0.18																				
Crew/Work Boat	2	100	5	15	0.38	0.18																				
Split Hull Barge	2	350	3	15	0.38	0.18																				
Subphase 4b: Dredging Window																										
Crew/Work Boat	2	100	5	25	0.38	0.18																				
Mechanical Dredger	1	1400	10	25	0.29	0.06																				
Split Hull Barge	2	350	3	25	0.38	0.18																				
Tugboat	1	2000	5	25	0.31	0.18																				
Phase 4c: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.18																				
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Split Hull Barge	2	350	3	15	0.38	0.18																				
Tugboat	1	2000	2	15	0.31	0.18																				
Phase 5: Dredge Channel 3 and Place Final CAP																										
Subphase 5a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Tugboat	1	2000	5	15	0.31	0.18																				
Crew/Work Boat	2	100	5	15	0.38	0.18																				
Split Hull Barge	2	350	3	15	0.38	0.18																				
Subphase 5b: Dredge Channel 3 and Place in CAD for Final Cap																										
Mechanical Dredger	1	1400	10	17	0.29	0.06																				
Tugboat	1	2000	5	17	0.31	0.18																				
Crew/Work Boat	2	100	5	17	0.38	0.18																				
Split Hull Barge	2	350	3	17	0.38	0.18																				
Subphase 5c: Dredge Remaining Material in Newport Channel 3																										
Mechanical Dredger	1	1400	10	18	0.29	0.06																				
Tugboat	1	2000	5	18	0.31	0.18																				
Crew/Work Boat	2	100	5	18	0.38	0.18																				
Split Hull Barge	2	350	3	18	0.38	0.18																				
Phase 5d: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.18																				
Mechanical Dredger	1	1400	2	15	0.29	0.06																				
Split Hull Barge	2	350	2	15	0.38	0.18																				
Tugboat	1	2000	2	15	0.31	0.18																				
PM25 Daily Average Emission (lbs/workday)									3.3												2.6				2.6	
PM25 Annual Emission (tons/year)									Year 2022: Total PM25												0.12 tons					

Dec		2022		Jun		2024		Jul		2024		Aug		2024		Sep		2024		Oct		2024		Nov		2024		Dec		2024		Jan	
1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
																										0.1							
																										1.2							
																										0.2							
																										0.3							
						0.1																											
						1.2																											
						0.2																											
						0.3																											
																																	0.5
																																	1.2
																																	0.2
																																	0.3
						1.8											2.2									4.0							
				Year 2024: Total PM25					0.0 tons																							Year 2025: Total P	

2025		Feb		2025		Mar		2025		Apr		2025		May		2025		Jun		2025		Jul		2025		Aug		2025		Sept		2025	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
						0.2																											
						0.5																											
						0.3																											
						1.2																											
																	0.2																
																	0.1																
																	0.3																
																	0.5																
																										0.5							
																										1.2							
																										0.2							
																										0.3							
																													0.2				
																													0.1				
																													0.2				
																													0.5				
						4.4												3.3				2.2				2.2			1.0				
M25		0.1																															

Newport Harbor Dredging (CEQA Projects) - Air Pollutant Emission Inventory - ROG

Year 2022

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	ROG Fac	Jul 2022 1st	Jul 2022 2nd	Jul 2022 3rd	Jul 2022 4th	Aug 2022 1st	Aug 2022 2nd	Aug 2022 3rd	Aug 2022 4th	Sep 2022 1st	Sep 2022 2nd	Sep 2022 3rd	Sep 2022 4th	Oct 2022 1st	Oct 2022 2nd	Oct 2022 3rd	Oct 2022 4th	Nov 2022 1st	Nov 2022 2nd	Nov 2022 3rd	Nov 2022 4th
Phase 1: Excavate CAD																										
Subphase 1a: Excavate CAD																										
Crew/Work Boat	2	100	5	59	0.38	0.31			0.3																	
Mechanical Dredger	1	2500	10	59	0.29	0.20			3.2																	
Split Hull Barge	2	350	3	59	0.38	0.31			0.5																	
Tugboat	1	2000	8	59	0.31	0.31			3.3																	
Phase 2: Dredge Unsuitable Material and Place in CAD																										
Subphase 2a: Dredge Unsuitable Material and Place in CAD																										
Mechanical Dredger	1	2500	10	13	0.29	0.20														3.2						
Tugboat	1	2000	5	13	0.31	0.31														2.1						
Crew/Work Boat	2	100	5	13	0.38	0.31														0.3						
Split Hull Barge	2	350	3	13	0.38	0.31														0.5						
Phase 3: Dredge Newport Channel 3 for Interim Cover																										
Subphase 3a: Dredge Newport Channel 3 for Interim Cap																										
Mechanical Dredger	1	2500	10	2	0.29	0.20																		3.2		
Tugboat	1	2000	5	2	0.31	0.31																		2.1		
Crew/Work Boat	2	100	5	2	0.38	0.31																		0.3		
Split Hull Barge	2	350	3	2	0.38	0.31																		0.5		
Phase 4: Dredge Non-Federal Channel Material																										
Subphase 4a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.20																				
Tugboat	1	2000	5	15	0.31	0.31																				
Crew/Work Boat	2	100	5	15	0.38	0.31																				
Split Hull Barge	2	350	3	15	0.38	0.31																				
Subphase 4b: Dredging Window																										
Crew/Work Boat	2	100	5	25	0.38	0.31																				
Mechanical Dredger	1	1400	10	25	0.29	0.20																				
Split Hull Barge	2	350	3	25	0.38	0.31																				
Tugboat	1	2000	5	25	0.31	0.31																				
Phase 4c: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.31																				
Mechanical Dredger	1	1400	2	15	0.29	0.20																				
Split Hull Barge	2	350	3	15	0.38	0.31																				
Tugboat	1	2000	2	15	0.31	0.31																				
Phase 5: Dredge Channel 3 and Place Final CAP																										
Subphase 5a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.20																				
Tugboat	1	2000	5	15	0.31	0.31																				
Crew/Work Boat	2	100	5	15	0.38	0.31																				
Split Hull Barge	2	350	3	15	0.38	0.31																				
Subphase 5b: Dredge Channel 3 and Place in CAD for Final Cap																										
Mechanical Dredger	1	1400	10	17	0.29	0.20																				
Tugboat	1	2000	5	17	0.31	0.20																				
Crew/Work Boat	2	100	5	17	0.38	0.31																				
Split Hull Barge	2	350	3	17	0.38	0.31																				
Subphase 5c: Dredge Remaining Material in Newport Channel 3																										
Mechanical Dredger	1	1400	10	18	0.29	0.20																				
Tugboat	1	2000	5	18	0.31	0.20																				
Crew/Work Boat	2	100	5	18	0.38	0.31																				
Split Hull Barge	2	350	3	18	0.38	0.31																				
Phase 5d: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.31																				
Mechanical Dredger	1	1400	2	15	0.29	0.20																				
Split Hull Barge	2	350	2	15	0.38	0.31																				
Tugboat	1	2000	2	15	0.31	0.31																				
ROG Daily Average Emission (lbs/workday)									7.4											6.1				6.1		
ROG Annual Emission (tons/year)							Year 2022: Total ROG		0.26 tons																	

Dec 2022				Jun 2024				Jul 2024				Aug 2024				Sep 2024				Oct 2024				Nov 2024				Dec 2024				Jan	
1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
																										0.4							
																										2.1							
																										0.3							
																										0.5							
						0.4																											
						2.1																											
						0.3																											
						0.5																											
																																	1.8
																																	1.4
																																	0.3
																																	0.5
						3.2											4.0									7.2							
				Year 2024: Total ROG					0.1 tons																							Year 2025: Total R	

2025		Feb		2025		Mar		2025		Apr		2025		May		2025		Jun		2025		Jul		2025		Aug		2025		Sept		2025	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
0.3																																	
1.8																																	
0.5																																	
2.1																																	
																	0.3																
																	0.4																
																	0.5																
																	0.8																
																									1.8								
																									1.4								
																									0.3								
																									0.5								
																												0.3					
																												0.4					
																												0.4					
																												0.8					
8.7																	6.0			4.0					4.0			1.8					
:OG		0.1																															

Newport Harbor Dredging (CEQA Projects) - Air Pollutant Emission Inventory - SO2

Year 2022

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	SO2 Fac	Jul 2022 1st	Jul 2022 2nd	Jul 2022 3rd	Jul 2022 4th	Aug 2022 1st	Aug 2022 2nd	Aug 2022 3rd	Aug 2022 4th	Sep 2022 1st	Sep 2022 2nd	Sep 2022 3rd	Sep 2022 4th	Oct 2022 1st	Oct 2022 2nd	Oct 2022 3rd	Oct 2022 4th	Nov 2022 1st	Nov 2022 2nd	Nov 2022 3rd	Nov 2022 4th
Phase 1: Excavate CAD																										
Subphase 1a: Excavate CAD																										
Crew/Work Boat	2	100	5	59	0.38	0.00			0.0																	
Mechanical Dredger	1	2500	10	59	0.29	0.01			0.1																	
Split Hull Barge	2	350	3	59	0.38	0.00			0.0																	
Tugboat	1	2000	8	59	0.31	0.00			0.0																	
Phase 2: Dredge Unsuitable Material and Place in CAD																										
Subphase 2a: Dredge Unsuitable Material and Place in CAD																										
Mechanical Dredger	1	2500	10	13	0.29	0.01														0.1						
Tugboat	1	2000	5	13	0.31	0.00														0.0						
Crew/Work Boat	2	100	5	13	0.38	0.00														0.0						
Split Hull Barge	2	350	3	13	0.38	0.00														0.0						
Phase 3: Dredge Newport Channel 3 for Interim Cover																										
Subphase 3a: Dredge Newport Channel 3 for Interim Cap																										
Mechanical Dredger	1	2500	10	2	0.29	0.01																		0.1		
Tugboat	1	2000	5	2	0.31	0.00																		0.0		
Crew/Work Boat	2	100	5	2	0.38	0.00																		0.0		
Split Hull Barge	2	350	3	2	0.38	0.00																		0.0		
Phase 4: Dredge Non-Federal Channel Material																										
Subphase 4a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.01																				
Tugboat	1	2000	5	15	0.31	0.00																				
Crew/Work Boat	2	100	5	15	0.38	0.00																				
Split Hull Barge	2	350	3	15	0.38	0.00																				
Subphase 4b: Dredging Window																										
Crew/Work Boat	2	100	5	25	0.38	0.00																				
Mechanical Dredger	1	1400	10	25	0.29	0.01																				
Split Hull Barge	2	350	3	25	0.38	0.00																				
Tugboat	1	2000	5	25	0.31	0.00																				
Phase 4c: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.00																				
Mechanical Dredger	1	1400	2	15	0.29	0.01																				
Split Hull Barge	2	350	3	15	0.38	0.00																				
Tugboat	1	2000	2	15	0.31	0.00																				
Phase 5: Dredge Channel 3 and Place Final CAP																										
Subphase 5a: Mobilization (Smaller Dredge Equipment)																										
Mechanical Dredger	1	1400	2	15	0.29	0.01																				
Tugboat	1	2000	5	15	0.31	0.00																				
Crew/Work Boat	2	100	5	15	0.38	0.00																				
Split Hull Barge	2	350	3	15	0.38	0.00																				
Subphase 5b: Dredge Channel 3 and Place in CAD for Final Cap																										
Mechanical Dredger	1	1400	10	17	0.29	0.01																				
Tugboat	1	2000	5	17	0.31	0.00																				
Crew/Work Boat	2	100	5	17	0.38	0.00																				
Split Hull Barge	2	350	3	17	0.38	0.00																				
Subphase 5c: Dredge Remaining Material in Newport Channel 3																										
Mechanical Dredger	1	1400	10	18	0.29	0.01																				
Tugboat	1	2000	5	18	0.31	0.00																				
Crew/Work Boat	2	100	5	18	0.38	0.00																				
Split Hull Barge	2	350	3	18	0.38	0.00																				
Phase 5d: Demobilization																										
Crew/Work Boat	2	100	5	15	0.38	0.00																				
Mechanical Dredger	1	1400	2	15	0.29	0.01																				
Split Hull Barge	2	350	2	15	0.38	0.00																				
Tugboat	1	2000	2	15	0.31	0.00																				
SO2 Daily Average Emission (lbs/workday)									0.1											0.1				0.1		
SO2 Annual Emission (tons/year)							Year 2022: Total SO2				0.00 tons															

Dec		2022		Jun		2024		Jul		2024		Aug		2024		Sep		2024		Oct		2024		Nov		2024		Dec		2024		Jan	
1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
																											0.0						
																											0.0						
																											0.0						
																											0.0						
						0.0																											
						0.0																											
						0.0																											
						0.0																											
																																	0.0
																																	0.0
																																	0.0
																																	0.0
						0.0											0.1										0.1						
				Year 2024: Total SO2				0.0 tons																								Year 2025: Total S	

		Feb				Mar				Apr				May				Jun				Jul				Aug				Sept			
2025				2025				2025				2025				2025				2025				2025				2025				2025	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
0.0																																	
0.0																																	
0.0																																	
0.0																																	
																	0.0																
																	0.0																
																	0.0																
																	0.0																
																									0.0								
																									0.0								
																									0.0								
																									0.0								
																												0.0					
																												0.0					
																												0.0					
																												0.0					
0.2																	0.1			0.1					0.1			0.0					
O2		0.0																															

Newport Harbor Dredging (NEPA Projects) - Air Pollutant Emission Inventory - CO

Year 2020

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	CO Fac	Nov 2020 1st	Nov 2020 2nd	Nov 2020 3rd	Nov 2020 4th	Dec 2020 1st	Dec 2020 2nd	Dec 2020 3rd	Dec 2020 4th	Jan 1st	Jan 2nd
Phase 1: Entrance Channel Dredging and Rock Revetment																
Subphase 1a - Mobilization (Larger Dredge Equipment)																
Crew/Work Boat	2	100	5	15	0.38	3.73				3.1						
Mechanical Dredger	1	2500	2	15	0.29	1.00				3.2						
Split Hull Barge	2	350	3	15	0.38	3.73				6.6						
Tugboat	1	2000	2	15	0.31	3.73				10.2						
Subphase 1b: Dredge Entrance Channel																
Mechanical Dredger	1	2500	10	16	0.29	1.00						16.0				
Tugboat	1	2000	5	16	0.31	3.73						25.5				
Crew/work Boat	2	100	5	16	0.38	3.73						3.1				
Split Hull Barge	2	350	3	16	0.38	3.73						6.6				
Subphase 1c: Rock Revetment Repairs																
Dozer	1	215	10	60	0.40	2.37						4.5				
Crane	1	170	10	60	0.29	3.56						3.9				
Haul Truck	1	485	10	60	0.38	1.41						5.7				
Front Loader	1	48	10	60	0.36	6.77						2.6				
Subphase 1d: Demobilization																
Crew/work Boat	2	100	5	15	0.38	3.73										
Mechanical Dredger	1	2500	2	15	0.29	1.00										
Split Hull Barge	2	350	12	15	0.38	3.73										
Tugboat	1	2000	2	15	0.31	3.73										
Phase 2: Dredge Suitable Material in Federal Channels																
Subphase 2a: Mobilization																
Crew/work boat	2	100	5	15	0.38	3.73										
Mechanical Dredger	1	2500	2	15	0.29	1.00										
Split Hull Barge	2	350	3	15	0.38	3.73										
Tugboat	1	2000	2	15	0.31	3.73										
Phase 2b: Dredge Suitable Material in Federal Channels																
Crew/work boat	2	100	5	157	0.38	3.73										
Mechanical Dredger	1	2500	10	157	0.29	1.00										
Split Hull Barge	2	350	3	157	0.38	3.73										
Tugboat	1	2000	8	157	0.31	3.73										
CO Daily Average Emission (lbs/workday)									23.1			67.8				
CO Annual Emission (tons/year)							Year 2020: Total CO					0.83 tons			Year 2021: Total CO	

2021		Feb			2021	Mar			2021	Nov			2021	Dec			2021	Jan			2022	Feb	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
4.4																							
3.8																							
5.4																							
2.5																							
						3.1																	
						3.2																	
						26.2																	
						10.2																	
												3.1											
												3.2											
												6.6											
												10.2											
															3.1								
															16.1								
															6.6								
															40.8								
16.1						42.8						23.1			66.6								
0.74 tons																		Year 2022: Total CO			5.23		

2022		Mar 2022				Apr 2022				May 2022				Jun 2022				Jul 2022			
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
3.1																					
16.2																					
6.6																					
40.8																					
66.7																					

tons

Newport Harbor Dredging (NEPA Projects) - Air Pollutant Emission Inventory - CO2

Year 2020

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	CO2 Fac	Nov 1st	Nov 2nd	Nov 3rd	Nov 4th	Dec 1st	Dec 2nd	Dec 3rd	Dec 4th	Jan 1st
							2020						2020		
Phase 1: Entrance Channel Dredging and Rock Revetment															
Subphase 1a - Mobilization (Larger Dredge Equipment)															
Crew/Work Boat	2	100	5	15	0.38	468.00			392.1						
Mechanical Dredger	1	2500	2	15	0.29	472.05			1509.3						
Split Hull Barge	2	350	3	15	0.38	468.00			823.5						
Tugboat	1	2000	2	15	0.31	468.00			1279.6						
Subphase 1b: Dredge Entrance Channel															
Mechanical Dredger	1	2500	10	16	0.29	472.05						7,546.4			
Tugboat	1	2000	5	16	0.31	468.00						3,199.0			
Crew/work Boat	2	100	5	16	0.38	468.00						392.1			
Split Hull Barge	2	350	3	16	0.38	468.00						823.5			
Subphase 1c: Rock Revetment Repairs															
Dozer	1	215	10	60	0.40	474.79						900.3			
Crane	1	170	10	60	0.29	474.59						515.9			
Haul Truck	1	485	10	60	0.38	474.58						1928.6			
Front Loader	1	48	10	60	0.36	524.70						199.9			
Subphase 1d: Demobilization															
Crew/work Boat	2	100	5	15	0.38	468.00									
Mechanical Dredger	1	2500	2	15	0.29	472.05									
Split Hull Barge	2	350	12	15	0.38	468.00									
Tugboat	1	2000	2	15	0.31	468.00									
Phase 2: Dredge Suitable Material in Federal Channels															
Subphase 2a: Mobilization															
Crew/work boat	2	100	5	15	0.38	468.00									
Mechanical Dredger	1	2500	2	15	0.29	472.05									
Split Hull Barge	2	350	3	15	0.38	468.00									
Tugboat	1	2000	2	15	0.31	468.00									
Phase 2b: Dredge Suitable Material in Federal Channels															
Crew/work boat	2	100	5	157	0.38	468.00									
Mechanical Dredger	1	2500	10	157	0.29	472.05									
Split Hull Barge	2	350	3	157	0.38	468.00									
Tugboat	1	2000	8	157	0.31	468.00									
CO2 Daily Average Emission (lbs/workday)									4004.5			15,505.8			
CO2 Annual Emission (tons/year)							Year 2020: Total CO2					178.9 tons			Year 2021
												162.3 MT			

2021			Feb 2021				Mar 2021				Nov 2021				Dec 2021				Jan 2022				Feb
2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st
900.4																							
515.9																							
1928.5																							
199.9																							
							392.1																
							1509.3																
							3294.0																
							1279.6																
													392.1										
													1509.3										
													823.5										
													1279.6										
																392.1							
																7546.4							
																823.5							
																5118.4							
3,544.5							6475.0						4004.5			13880.4							

: Total CO2 131.8 tons

119.5 MT

Year 2022: Total CO2

	2022		Mar		2022		Apr		2022		May		2022		Jun		2022		Jul		2022	
2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
392.1																						
7546.4																						
823.5																						
5118.4																						
13880.4																						

1089.6 tons

988.3 MT

Newport Harbor Dredging (NEPA Projects) - Air Pollutant Emission Inventory - NOx

Year 2020

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	NOx Fac	Nov 2020 1st	Nov 2020 2nd	Nov 2020 3rd	Nov 2020 4th	Dec 2020 1st	Dec 2020 2nd	Dec 2020 3rd	Dec 2020 4th	Jan 1st	Jan 2nd
Phase 1: Entrance Channel Dredging and Rock Revetment																
Subphase 1a - Mobilization (Larger Dredge Equipment)																
Crew/Work Boat	2	100	5	15	0.38	5.50				4.6						
Mechanical Dredger	1	2500	2	15	0.29	2.36				7.5						
Split Hull Barge	2	350	3	15	0.38	5.50				9.7						
Tugboat	1	2000	2	15	0.31	5.50				15.0						
Subphase 1b: Dredge Entrance Channel																
Mechanical Dredger	1	2500	10	16	0.29	2.36						37.7				
Tugboat	1	2000	5	16	0.31	5.50						37.6				
Crew/work Boat	2	100	5	16	0.38	5.50						4.6				
Split Hull Barge	2	350	3	16	0.38	5.50						9.7				
Subphase 1c: Rock Revetment Repairs																
Dozer	1	215	10	60	0.40	6.50						12.3				
Crane	1	170	10	60	0.29	5.57						6.1				
Haul Truck	1	485	10	60	0.38	2.35						9.5				
Front Loader	1	48	10	60	0.36	5.25						2.0				
Subphase 1d: Demobilization																
Crew/work Boat	2	100	5	15	0.38	5.50										
Mechanical Dredger	1	2500	2	15	0.29	2.36										
Split Hull Barge	2	350	12	15	0.38	5.50										
Tugboat	1	2000	2	15	0.31	5.50										
Phase 2: Dredge Suitable Material in Federal Channels																
Subphase 2a: Mobilization																
Crew/work boat	2	100	5	15	0.38	5.50										
Mechanical Dredger	1	2500	2	15	0.29	2.36										
Split Hull Barge	2	350	3	15	0.38	5.50										
Tugboat	1	2000	2	15	0.31	5.50										
Phase 2b: Dredge Suitable Material in Federal Channels																
Crew/work boat	2	100	5	157	0.38	5.50										
Mechanical Dredger	1	2500	10	157	0.29	2.36										
Split Hull Barge	2	350	3	157	0.38	5.50										
Tugboat	1	2000	8	157	0.31	5.50										
NOx Daily Average Emission (lbs/workday)										36.9				1.0		
NOx Annual Emission (tons/year)							Year 2020: Total NOx						1.44 tons		Year 2021: Total NO	

2021		Feb			2021	Mar			2021	Nov			2021	Dec			2021	Jan			2022	Feb	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
11.9																							
5.6																							
7.9																							
1.9																							
						4.6																	
						7.6																	
						38.7																	
						15.0																	
												4.6											
												7.6											
												9.7											
												15.0											
															4.6								
															38.0								
															9.7								
															60.2								
27.3						65.9						36.9			112.4								
Ox				1.18 tons														Year 2022: Total NOx			8.82		

2022		Mar		2022		Apr		2022		May		2022		Jun		2022		Jul		2022	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
4.6																					
38.1																					
9.7																					
60.2																					
112.6																					
tons																					

Newport Harbor Dredging (NEPA Projects) - Air Pollutant Emission Inventory - PM10

Year 2020

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	PM10 Fac	Nov 2020 1st	Nov 2020 2nd	Nov 2020 3rd	Nov 2020 4th	Dec 2020 1st	Dec 2020 2nd	Dec 2020 3rd	Dec 2020 4th	Jan 1st	Jan 2nd
Phase 1: Entrance Channel Dredging and Rock Revetment																
Subphase 1a - Mobilization (Larger Dredge Equipment)																
Crew/Work Boat	2	100	5	15	0.38	0.20				0.2						
Mechanical Dredger	1	2500	2	15	0.29	0.06				0.2						
Split Hull Barge	2	350	3	15	0.38	0.20				0.4						
Tugboat	1	2000	2	15	0.31	0.20				0.6						
Subphase 1b: Dredge Entrance Channel																
Mechanical Dredger	1	2500	10	16	0.29	0.06						1.0				
Tugboat	1	2000	5	16	0.31	0.20						1.4				
Crew/work Boat	2	100	5	16	0.38	0.20						0.2				
Split Hull Barge	2	350	3	16	0.38	0.20						0.4				
Subphase 1c: Rock Revetment Repairs																
Dozer	1	215	10	60	0.40	0.32						0.6				
Crane	1	170	10	60	0.29	0.30						0.3				
Haul Truck	1	485	10	60	0.38	0.09						0.3				
Front Loader	1	48	10	60	0.36	0.47						0.2				
Subphase 1d: Demobilization																
Crew/work Boat	2	100	5	15	0.38	0.20										
Mechanical Dredger	1	2500	2	15	0.29	0.06										
Split Hull Barge	2	350	12	15	0.38	0.20										
Tugboat	1	2000	2	15	0.31	0.20										
Phase 2: Dredge Suitable Material in Federal Channels																
Subphase 2a: Mobilization																
Crew/work boat	2	100	5	15	0.38	0.20										
Mechanical Dredger	1	2500	2	15	0.29	0.06										
Split Hull Barge	2	350	3	15	0.38	0.20										
Tugboat	1	2000	2	15	0.31	0.20										
Phase 2b: Dredge Suitable Material in Federal Channels																
Crew/work boat	2	100	5	157	0.38	0.20										
Mechanical Dredger	1	2500	10	157	0.29	0.06										
Split Hull Barge	2	350	3	157	0.38	0.20										
Tugboat	1	2000	8	157	0.31	0.20										
PM10 Daily Average Emission (lbs/workday)										1.3				4.3		
PM10 Annual Emission (tons/year)							Year 2020: Total PM10						0.05 tons		Year 2021: Total PM	

2021		Feb			2021	Mar			2021	Nov			2021	Dec			2021	Jan			2022	Feb	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
0.6																							
0.3																							
0.3																							
0.2																							
						0.2																	
						0.2																	
						1.4																	
						0.6																	
												0.2											
												0.2											
												0.4											
												0.6											
															0.2								
															1.0								
															0.4								
															2.2								
1.3						2.3						1.3			3.7								
M10				0.05 tons														Year 2022: Total PM10			0.29		

2022		Mar		2022		Apr		2022		May		2022		Jun		2022		Jul		2022	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
						0.2															
						1.0															
						0.4															
						2.2															
						3.7															
tons																					

Newport Harbor Dredging (NEPA Projects) - Air Pollutant Emission Inventory - PM25

Year 2020

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	PM25 Fac	Nov 2020 1st	Nov 2020 2nd	Nov 2020 3rd	Nov 2020 4th	Dec 2020 1st	Dec 2020 2nd	Dec 2020 3rd	Dec 2020 4th	Jan 1st	Jan 2nd
Phase 1: Entrance Channel Dredging and Rock Revetment																
Subphase 1a - Mobilization (Larger Dredge Equipment)																
Crew/Work Boat	2	100	5	15	0.38	0.18				0.2						
Mechanical Dredger	1	2500	2	15	0.29	0.06				0.2						
Split Hull Barge	2	350	3	15	0.38	0.18				0.3						
Tugboat	1	2000	2	15	0.31	0.18				0.5						
Subphase 1b: Dredge Entrance Channel																
Mechanical Dredger	1	2500	10	16	0.29	0.06						0.9				
Tugboat	1	2000	5	16	0.31	0.18						1.2				
Crew/work Boat	2	100	5	16	0.38	0.18						0.2				
Split Hull Barge	2	350	3	16	0.38	0.18						0.3				
Subphase 1c: Rock Revetment Repairs																
Dozer	1	215	10	60	0.40	0.29						0.6				
Crane	1	170	10	60	0.29	0.27						0.3				
Haul Truck	1	485	10	60	0.38	0.08						0.3				
Front Loader	1	48	10	60	0.36	0.44						0.2				
Subphase 1d: Demobilization																
Crew/work Boat	2	100	5	15	0.38	0.18										
Mechanical Dredger	1	2500	2	15	0.29	0.06										
Split Hull Barge	2	350	12	15	0.38	0.18										
Tugboat	1	2000	2	15	0.31	0.18										
Phase 2: Dredge Suitable Material in Federal Channels																
Subphase 2a: Mobilization																
Crew/work boat	2	100	5	15	0.38	0.18										
Mechanical Dredger	1	2500	2	15	0.29	0.06										
Split Hull Barge	2	350	3	15	0.38	0.18										
Tugboat	1	2000	2	15	0.31	0.18										
Phase 2b: Dredge Suitable Material in Federal Channels																
Crew/work boat	2	100	5	157	0.38	0.18										
Mechanical Dredger	1	2500	10	157	0.29	0.06										
Split Hull Barge	2	350	3	157	0.38	0.18										
Tugboat	1	2000	8	157	0.31	0.18										
PM25 Daily Average Emission (lbs/workday)										1.1						
PM25 Annual Emission (tons/year)							Year 2020: Total PM25					0.05 tons			Year 2021: Total PM	

2021		Feb		2021		Mar		2021		Nov		2021		Dec		2021		Jan		2022		Feb	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
0.5																							
0.3																							
0.3																							
0.1																							
						0.2																	
						0.2																	
						1.3																	
						0.5																	
												0.2											
												0.2											
												0.3											
												0.5											
															0.2								
															0.9								
															0.3								
															2.0								
1.2						2.1						1.1			3.3								
M25				0.04 tons														Year 2022: Total PM25				0.26	

2022		Mar		2022		Apr		2022		May		2022		Jun		2022		Jul		2022	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
							0.2														
							1.0														
							0.3														
							2.0														
							3.4														
tons																					

Newport Harbor Dredging (NEPA Projects) - Air Pollutant Emission Inventory - ROG

Year 2020

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	ROG Fac	Nov 2020 1st	Nov 2020 2nd	Nov 2020 3rd	Nov 2020 4th	Dec 2020 1st	Dec 2020 2nd	Dec 2020 3rd	Dec 2020 4th	Jan 1st	Jan 2nd
Phase 1: Entrance Channel Dredging and Rock Revetment																
Subphase 1a - Mobilization (Larger Dredge Equipment)																
Crew/Work Boat	2	100	5	15	0.38	0.31				0.3						
Mechanical Dredger	1	2500	2	15	0.29	0.18				0.6						
Split Hull Barge	2	350	3	15	0.38	0.31				0.5						
Tugboat	1	2000	2	15	0.31	0.31				0.8						
Subphase 1b: Dredge Entrance Channel																
Mechanical Dredger	1	2500	10	16	0.29	0.18						2.9				
Tugboat	1	2000	5	16	0.31	0.31						2.1				
Crew/work Boat	2	100	5	16	0.38	0.31						0.3				
Split Hull Barge	2	350	3	16	0.38	0.31						0.5				
Subphase 1c: Rock Revetment Repairs																
Dozer	1	215	10	60	0.40	0.62						1.2				
Crane	1	170	10	60	0.29	0.54						0.6				
Haul Truck	1	485	10	60	0.38	0.25						1.0				
Front Loader	1	48	10	60	0.36	1.48						0.6				
Subphase 1d: Demobilization																
Crew/work Boat	2	100	5	15	0.38	0.31										
Mechanical Dredger	1	2500	2	15	0.29	0.18										
Split Hull Barge	2	350	12	15	0.38	0.31										
Tugboat	1	2000	2	15	0.31	0.31										
Phase 2: Dredge Suitable Material in Federal Channels																
Subphase 2a: Mobilization																
Crew/work boat	2	100	5	15	0.38	0.31										
Mechanical Dredger	1	2500	2	15	0.29	0.18										
Split Hull Barge	2	350	3	15	0.38	0.31										
Tugboat	1	2000	2	15	0.31	0.31										
Phase 2b: Dredge Suitable Material in Federal Channels																
Crew/work boat	2	100	5	157	0.38	0.31										
Mechanical Dredger	1	2500	10	157	0.29	0.18										
Split Hull Barge	2	350	3	157	0.38	0.31										
Tugboat	1	2000	8	157	0.31	0.31										
ROG Daily Average Emission (lbs/workday)									2.2				9.1			
ROG Annual Emission (tons/year)							Year 2020: Total ROG						0.11 tons		Year 2021: Total RO	

2021		Feb			2021	Mar			2021	Nov			2021	Dec			2021	Jan			2022	Feb	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
1.1																							
0.5																							
0.9																							
0.5																							
						0.3																	
						0.6																	
						2.2																	
						0.8																	
												0.3											
												0.6											
												0.5											
												0.8											
															0.3								
															3.1								
															0.5								
															3.3								
3.1						3.9						2.2			7.2								

0.09 tons

Year 2022: Total ROG 0.57

2022		Mar			2022	Apr			2022	May			2022	Jun			2022	Jul			2022
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
						0.3															
						3.2															
						0.5															
						3.3															
						7.4															
tons																					

Newport Harbor Dredging (NEPA Projects) - Air Pollutant Emission Inventory - SO2

Year 2020

Phase/Subphase/Equipment	# Equip	Equip Hp	Hours/ Day	Work Days	Load Fac	SO2 Fac	Nov 2020 1st	Nov 2020 2nd	Nov 2020 3rd	Nov 2020 4th	Dec 2020 1st	Dec 2020 2nd	Dec 2020 3rd	Dec 2020 4th	Jan 1st	Jan 2nd
Phase 1: Entrance Channel Dredging and Rock Revetment																
Subphase 1a - Mobilization (Larger Dredge Equipment)																
Crew/Work Boat	2	100	5	15	0.38	0.01				0.0						
Mechanical Dredger	1	2500	2	15	0.29	0.01				0.0						
Split Hull Barge	2	350	3	15	0.38	0.01				0.0						
Tugboat	1	2000	2	15	0.31	0.01				0.0						
Subphase 1b: Dredge Entrance Channel																
Mechanical Dredger	1	2500	10	16	0.29	0.01							0.1			
Tugboat	1	2000	5	16	0.31	0.01							0.0			
Crew/work Boat	2	100	5	16	0.38	0.01							0.0			
Split Hull Barge	2	350	3	16	0.38	0.01							0.0			
Subphase 1c: Rock Revetment Repairs																
Dozer	1	215	10	60	0.40	0.01							0.0			
Crane	1	170	10	60	0.29	0.01							0.0			
Haul Truck	1	485	10	60	0.38	0.01							0.0			
Front Loader	1	48	10	60	0.36	0.01							0.0			
Subphase 1d: Demobilization																
Crew/work Boat	2	100	5	15	0.38	0.01										
Mechanical Dredger	1	2500	2	15	0.29	0.01										
Split Hull Barge	2	350	12	15	0.38	0.01										
Tugboat	1	2000	2	15	0.31	0.01										
Phase 2: Dredge Suitable Material in Federal Channels																
Subphase 2a: Mobilization																
Crew/work boat	2	100	5	15	0.38	0.01										
Mechanical Dredger	1	2500	2	15	0.29	0.01										
Split Hull Barge	2	350	3	15	0.38	0.01										
Tugboat	1	2000	2	15	0.31	0.01										
Phase 2b: Dredge Suitable Material in Federal Channels																
Crew/work boat	2	100	5	157	0.38	0.01										
Mechanical Dredger	1	2500	10	157	0.29	0.01										
Split Hull Barge	2	350	3	157	0.38	0.01										
Tugboat	1	2000	8	157	0.31	0.01										
SO2 Daily Average Emission (lbs/workday)										0.0			0.2			
SO2 Annual Emission (tons/year)							Year 2020: Total SO2						0.00 tons		Year 2021: Total SO	

2021		Feb			2021	Mar			2021	Nov			2021	Dec			2021	Jan			2022	Feb	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
0.0																							
0.0																							
0.0																							
0.0																							
						0.0																	
						0.0																	
						0.0																	
						0.0																	
												0.0											
												0.0											
												0.0											
												0.0											
															0.0								
															0.1								
															0.0								
															0.1								
0.0						0.1						0.0			0.1								
2			0.00 tons															Year 2022: Total SO2				0.01	

2022		Mar		2022		Apr		2022		May		2022		Jun		2022		Jul		2022	
3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
							0.0														
							0.1														
							0.0														
							0.1														
							0.1														

tons